TECHNICAL GUIDE

PREDATOR®

MagnaDRY™

SINGLE PACKAGE AIR CONDITIONERS AND SINGLE PACKAGE GAS/ELECTRIC UNITS

DR090, 120 and 150

DR090, 120

DR150

YORK® Heating and Air Conditioning

DESCRIPTION

ASHRAE 90.1 COMPLIANT

YORK® Predator® MagnaDry™ units are convertible single packages with a common footprint cabinet and common roof curb for all 7-1/2 through 12-1/2 ton models. All units have two compressors with independent refrigeration circuits to provide 2 stages of cooling. The units were designed for light commercial applications and can be easily installed on a roof curb, slab, or frame.

All Predator® MagnaDry™ units are self-contained and assembled on rigid full perimeter base rails allowing for 3-way forklift access and overhead rigging. Every unit is completely charged, wired, piped, and tested at the factory to provide a quick and easy field installation.

All units are convertible between side and down airflow. Independent economizer designs are used on side and down discharge applications, as well as all tonnage sizes.

Predator® MagnaDry™ units are available in the following configurations: cooling only, cooling with electric heat, and cooling with gas heat. Electric heaters are available as factory-installed options or field-installed accessories.

The Predator® MagnaDry™ provides energy-savings, efficient removal of moisture through a balanced coil design. Because the unit doesn't increase sensible cooling, it allows temperatures to be maintained within the comfort zone. Unlike competitive systems, you're not subjected to over cooling. You save through more efficient matching of dehumidification and cooling needs. This makes the MagnaDry™ perfect for applications that need to remove large amounts of moisture or maintain low humidity levels.

Tested in accordance with:

DESIGN CERTIFIED

C SA® US

MANUFACTURER CERTIFIED TO ARI AS COMPLYING WITH ARI STANDARD 210

CERTIFIED

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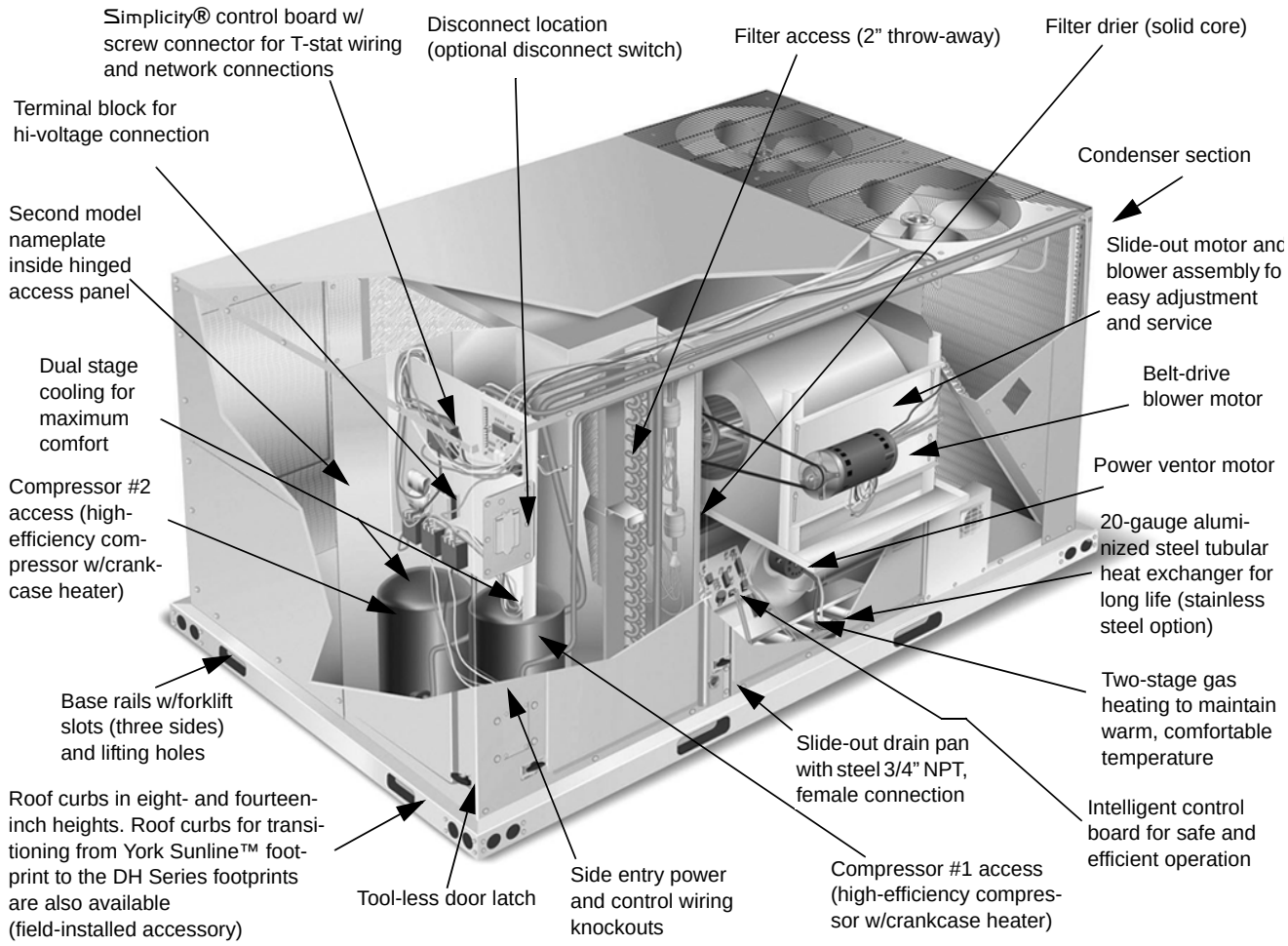

Simplicity® control board w/ screw connector for T-stat wiring and network connections
Disconnect location (optional disconnect switch)
Filter access (2" throw-away)
Filter drier (solid core)
Terminal block for hi-voltage connection
Condenser section
Second model nameplate inside hinged access panel
Slide-out motor and blower assembly fo easy adjustment and service
Dual stage cooling for maximum comfort
Belt-drive blower motor
Power ventor motor
Compressor #2 access (high-efficiency compressor w/crankcase heater)
20-gauge aluminized steel tubular heat exchanger for long life (stainless steel option)
Two-stage gas heating to maintain warm, comfortable temperature
Base rails w/forklift slots (three sides) and lifting holes
Slide-out drain pan with steel 3/4" NPT, female connection
Intelligent control board for safe and efficient operation
Roof curbs in eight- and fourteen-inch heights. Roof curbs for transitioning from York Sunline™ footprint to the DH Series footprints are also available (field-installed accessory)
Tool-less door latch
Side entry power and control wiring knockouts
Compressor #1 access (high-efficiency compressor w/crankcase heater)

FIGURE 1 - PREDATOR® MagnaDRY™ DR090, 120

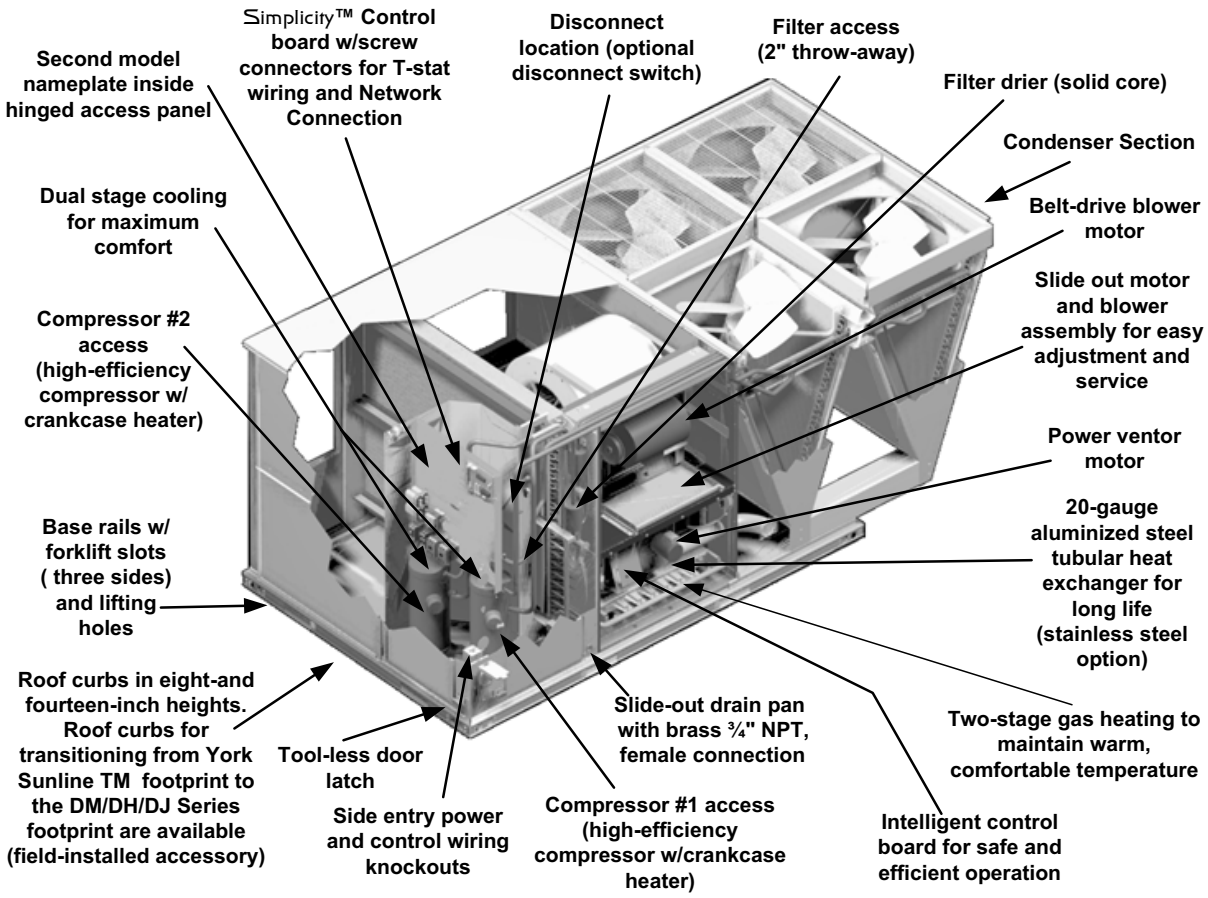

Second model nameplate inside hinged access panel
Simplicity™ Control board w/screw connectors for T-stat wiring and Network Connection
Disconnect location (optional disconnect switch)
Filter access (2" throw-away)
Filter drier (solid core)
Condenser Section
Belt-drive blower motor
Slide out motor and blower assembly for easy adjustment and service
Power ventor motor
20-gauge aluminized steel tubular heat exchanger for long life (stainless steel option)
Two-stage gas heating to maintain warm, comfortable temperature
Intelligent control board for safe and efficient operation
Compressor #1 access (high-efficiency compressor w/crankcase heater)
Slide-out drain pan with brass ¾" NPT, female connection
Side entry power and control wiring knockouts
Tool-less door latch
Roof curbs in eight-and fourteen-inch heights. Roof curbs for transitioning from York Sunline TM footprint to the DM/DH/DJ Series footprint are available (field-installed accessory)
Base rails w/ forklift slots (three sides) and lifting holes
Compressor #2 access (high-efficiency compressor w/ crankcase heater)
Dual stage cooling for maximum comfort

FIGURE 2 - PREDATOR® MagnaDRY™ DR150

FEATURES

- **High Efficiency** – High efficiency units reach as high as 11.2 EER. Gas/electric units have electronic spark ignition and power vented combustion with steady state efficiencies of 80%. These efficiencies exceed all legislated minimum levels and provide low operating costs.
- **Service Friendly** – The Predator® incorporates a number of enhancements which improve serviceability.

  The motor and blower slide out of the unit as a common assembly. This facilitates greater access to all the indoor airflow components, thus simplifying maintenance and adjustment.

  Service time is reduced through the use of hinged, tool-less panels. Such panels provide access to frequently inspected components and areas, including the control box, compressors, filters, indoor motor & blower, and the heating section. The panels are screwed in place at the factory to prevent access by children or other unauthorized persons. It is recommended that the panels be secured with screws once service is complete.

  Service windows have been placed in both condenser section walls. Rotation of the cover allows easy access to the condenser coils for cleaning or inspection.

  Both the unit control board and ignition control board utilize flash codes to aid in diagnosis of unit malfunctions. Unique alarm codes quickly identify the source of the unit alarm.

  All units use the same standard filter size. This standardization removes any confusion on which filter sizes are needed for replacement.

  The non-corrosive drain pan slides out of the unit to permit easy cleaning. The drain pan is accessed by removing the drain pan cover plate on the rear of the unit. Once the plate is removed, the drain pan slides out through the rear of the unit.

  All Predator® units have a second model nameplate located inside the control access door. This is to prevent deterioration of the nameplate through weathering.
- **Environmentally Aware** – For improved Indoor Air Quality, foil faced insulation is used exclusively throughout the units.

- **Balanced Heating** – The Predator® offers "Ultimate Heating Comfort" with a balance between 1st and 2nd stage gas heating. The first stage of a gas heat Predator® unit provides 60% of the heating capacity. Balanced heating allows the unit to better maintain desired temperatures.
- **Convertible Airflow Design** – The side duct openings are covered when they leave the factory. If a side supply/return is desired, the installer simply removes the two side duct covers from the outside of the unit and installs them over the down shot openings. No panel cutting is required. Convertible airflow design allows maximum field flexibility and minimum inventory.
- **System Protection** - Suction line freezestats are supplied on all units to protect against loss of charge and coil frosting when the economizer operates at low outdoor air temperatures while the compressors are running. Every unit has solid-core liquid line filter-driers and high and low-pressure switches. Internal compressor protection is standard on all compressors. Crankcase heaters are standard on reciprocating compressors. Scroll compressors do not require crankcase heaters. Phase Monitors are standard on units with scroll compressors. This accessory monitors the incoming power to the unit and protects the unit from phase loss and reversed phase rotation.
- **Advanced Controls** - Simplicity® control boards have standardized a number of features previously available only as options or by utilizing additional controls.
    - **Low Ambient** - An integrated low-ambient control allows all units to operate in the cooling mode down to 0°F outdoor ambient without additional assistance. Optionally, the control board can be programmed to lockout the compressors when the outdoor air temperature is low or when free cooling is available.
    - **Anti-Short Cycle Protection** - To aid compressor life, an anti-short cycle delay is incorporated into the standard controls. Compressor reliability is further ensured by programmable minimum run times. For testing, the anti-short cycle delay can be temporarily overridden with the push of a button.
    - **Fan Delays** - Fan on and fan off delays are fully programmable. Furthermore, the heating and cooling fan delay times are independent of one another. All units are programmed with default values based upon their configuration of cooling and heat.
    - **Safety Monitoring** - The control board monitors the high and low-pressure switches, the freezestats, the gas valve, if applicable, and the temperature limit switch on gas and electric heat units. The unit control board will alarm on ignition failures, compressor lockouts and repeated limit switch trips.
    - **Nuisance Trip Protection and Strikes** - To prevent nuisance trouble calls, the control board uses a "three times, you're out" philosophy. The high and low-pressure switches and the freezestats must trip three times within two hours before the unit control board will lock out the associated compressor.
    - **On Board Diagnostics** - Each alarm will energize a trouble light on the thermostat, if so equipped, and flash an alarm code on the control board LED. Each high and low-pressure switch alarm as well as each freezestat alarm has its own flash code. The control board saves the five most recent alarms in memory, and these alarms can be reviewed at any time. Alarms and programmed values are retained through the loss of power.
- **Reliable** – From the beginning – All units undergo computer automated testing before they leave the factory. Units are tested for refrigerant charge and pressure, unit amperage, and 100% functionality. For the long term – All Predator® units are painted with a long lasting, powder paint that stands up over the life of the unit. The paint used has been proven by a 750 hour salt spray test.
- **Flexible Placement** – All models and configurations share the same cabinet/footprint and thus the same roof curb. You have the flexibility to set one curb and choose the correct tonnage size and heating option after the internal loads have been determined.

  To further simplify planning and installation, Predator® cabinets are designed to fit your roof. With the optional roof curb, the unit ductwork is designed to fit around 24" on-center joists or between 48" on-center joists.

  The drain pan can be rotated to drain to either the front or the rear of the unit. Additionally, the drain pan can be fitted to drain through the roof curb. As it is sometimes difficult to have a level installation, the drain pan features a generous slope to ensure proper drainage.
- **Full Perimeter Base Rails** – The permanently attached base rails provide a solid foundation for the entire unit and protect the unit during shipment. The rails offer forklift access from 3 sides, and rigging holes are available so that an overhead crane can be used to place the units on a roof.
- **Easy Installation** – Gas and electric utility knockouts are supplied in the unit underside as well as the side of the unit. A clearly identified location is provided to mount a field supplied electrical disconnect switch. Utility connections can be made quickly and with a minimum amount of field labor.

  All units are shipped with 2" throw-away filters installed.
- **Wide Range of Indoor Airflows** – All indoor fan motors are belt-drive type providing maximum flexibility to handle most airflow requirements. For high static applications, factory installed alternate indoor fan motors are available. With the optional indoor fan motor, all units can supply nominal airflow at a minimum of 1.5" ESP.
- **Warranty** - All models include a 1-year limited warranty on the complete unit. Compressors and electric heater elements each carry a 5-year warranty. Aluminized steel

and stainless steel tubular heat exchangers carry a 10-year warranty.

FACTORY INSTALLED OPTIONS

YORK® offers several equipment options factory installed, for the Predator® line.

- **Downflow Economizer** - **(With barometric relief)** - The economizer is provided with a single enthalpy input. The economizer is 2% low leakage type, and is shipped installed and wired. The installer needs only to assemble and mount the outdoor air hood (Provided). The economizer has spring return, fully modulating damper actuators and is capable of introducing up to 100% outdoor air. As the outdoor air intake dampers open, the return air dampers close. The changeover from mechanical refrigeration to economizer operation is regulated by the standard single enthalpy input. There is an optional input dual dry bulb available. To meet regulated air standards, the economizer control accepts an optional CO_2 input for demand ventilation. With single enthalpy input, the economizer control monitors outdoor air. The dual enthalpy kit provides a second input used to monitor the return air. With a dual input kit installed, the economizer control compares the values of the two enthalpy or temperature inputs and positions the dampers to provide the maximum efficiency possible.
- **Horizontal Economizer** - **(Without barometric relief)** - All features of the downflow economizer exist except you must order the duct mount barometric relief separately. **You must order a 1EH0408 if you are installing a power exhaust. You can order a 1RD0411 Barometric Relief for horizontal flow economizers only.**
- **Slab Economizer for Energy Recovery Ventilators**- **(With barometric relief and Fresh Air Hood)** - The economizer is provided with a single enthalpy input. The economizer is 2% low leakage type, and is shipped installed and wired. The economizer has spring return, fully modulating damper actuators and is capable of introducing up to 100% outdoor air. As the outdoor air intake dampers open, the return air dampers close. The changeover from mechanical refrigeration to economizer operation is regulated by the standard single enthalpy input. There is an optional input dual dry bulb available. To meet regulated air standards, the economizer control accepts an optional CO_2 input for demand ventilation.With single enthalpy input, the economizer control monitors outdoor air. The dual enthalpy kit provides a second input used to monitor the return air. With a dual input kit installed, the economizer control compares the values of the two enthalpy or temperature inputs and positions the dampers to provide the maximum efficiency possible.
- **Power Exhaust (Downflow only)** - This accessory installs in the unit with a down flow economizer.
- **Motorized Outdoor Air Damper** - The motorized outdoor air damper includes a slide-in/plug-in damper assembly with an outdoor air hood and filters. The outdoor air dampers open to the preset position when the indoor fan motor is energized. The damper has a range of 0% to 100% outdoor air entry. Factory installed option or field installed accessory.
- **Alternate Indoor Blower Motor** - For applications with high static restrictions, units are offered with optional indoor motors that provide higher static output and/or higher airflow, depending upon the installer's needs.
- **Aluminized Steel Gas Heat Exchanger** - For applications in non-corrosive environments.
- **Stainless Steel Gas Heat Exchanger** - For applications in corrosive environments, this option provides a full stainless steel heat exchanger assembly.
- **Stainless Steel Drain Pan** - Provides years of trouble free operation in corrosive environments.
- **Electric Heaters** - The electric heaters range from 9kW to 54kW and are available in all the voltage options of the base units. All heaters are dual staged. All heaters are intended for single point power supply.
- **Disconnect Switch** - For gas heat units and cooling units with electric heat, a HACR breaker sized to the unit is provided. For cooling only units, a switch sized to the largest electric heat available for the particular unit is provided. Factory installed option only.
- **Convenience Outlet - (Non-Powered/Powered)** - This option locates a 120V single-phase GFCI outlet with cover, on the corner of the unit housing adjacent to the compressors. The "Non-powered" option requires the installer to provide the 120V single-phase power source and wiring. The "Powered" option is powered by a step-down transformer in the unit. Factory installed option only.
- **Smoke Detectors** - The smoke detectors stop operation of the unit by interrupting power to the control board if smoke is detected within the air compartment. Available for both the supply and/or return air.
- **Phase Monitors** - Designed to prevent unit damage. The phase monitor will shut the unit down in an out-of phase condition. **(Standard on units with Scroll Compressors.)**
- **Coil Guard** - Customers can purchase a coil guard kit to protect the condenser coil from damage. Additionally, this kit stops animals and foreign objects from entering the space between the inner condenser coil and the main cabinet. This is not a hail guard kit.
- **Dirty Filter Switch** - This kit includes a differential pressure switch that energizes the fault light on the unit thermostat, indicating that there is an abnormally high pressure drop across the filters. Factory installed option or field installed accessory.
- **Technicoat Condenser Coils** - The condenser coils are coated with a phenolic coating for protection against corrosion due to harsh environments.

- **Technicoat Evaporator Coil** - The evaporator coils are coated with a phenolic coating for protection against corrosion due to harsh environments.
- **BAS - Building Automation System Controls Simplicity® Intelli-Comfort™ Control** - The York Simplicity® Intelli-Comfort™ control is factory installed. It includes a supply air sensor, a return air sensor, and an outside air sensor. There are provisions for a field installed dirty filter indicator switch, an air-proving switch, an Outside Air Humidity sensor, a Return Air Humidity sensor, an Inside IAQ sensor, and an Outside Air IAQ sensor. Construction mode operation, 365-day real time clock with 7 day programming plus holiday scheduling is built-in. Two different modes of demand ventilation are achieved through the Intelli-Comfort™ using CO_2 sensors. It uses an inside CO_2 sensor to perform Demand Ventilation. It can also use an Outside CO_2 sensor to perform Differential Demand Ventilation. It uses a Patented Comfort Ventilation algorithm to provide comfortable ventilation air temperature. The patented economizer-loading algorithm will protect the equipment when harsh operating conditions exist. Humidity in the occupied space or return duct can be monitored and controlled via humidity sensors and the on-board connection for hot gas re-heat system. It uses the Intelli-Start algorithm to maximize energy savings by recovering the building from the Unoccupied Setpoints to the Occupied Setpoints just in time for the Occupied Time Period to begin. The Simplicity® Intelli-Comfort™ balances space temperature, ventilation air temperature, CO_2 and humidity for ultimate comfort.
- **Simplicity® Intelli-Comfort™ with ModLINC Control** - The York Simplicity® Intelli-Comfort™ with ModLINC control is factory installed. It includes all the features of the Intelli-Comfort™ control with an additional control to translate communications from MODBUS to the BACnet MSTP protocol.
- **Novar® BAS Control** - The Novar® ETC-3 building automation system controller is factory installed. Incudes supply air sensor, return air sensor, dirty filter indicator switch, and air proving switch.
- **Johnson Controls BAS Control** - The Johnson Control YK-UNT-1126 building automation system controller is factory installed. Includes supply air sensor, return air sensor, dirty filter indicator switch, and air proving switch.
- **CPC BAS Control** - The Computer Process Controls Model 810-3060 ARTC Advanced Rooftop building automation system controller is factory installed. Includes supply air sensor, return air sensor, dirty filter indicator switch and air proving switch.
- **Honeywell BAS Control** - The Honeywell W7750C building automation system controller is factory installed. Includes air supply sensor, return air sensor, dirty filter indicator switch, and air proving switch.

FIELD INSTALLED ACCESSORIES

YORK® offers several equipment accessories for field installation, for the Predator® line.

- **Downflow Economizer** - **(With barometric relief)** - The economizer is provided with a single enthalpy input. The economizer is 2% low leakage type. The economizer has spring return, fully modulating damper actuators and is capable of introducing up to 100% outdoor air. As the outdoor air intake dampers open, the return air dampers close. The changeover from mechanical refrigeration to economizer operation is regulated by the standard single enthalpy input. There is an optional input dual dry bulb available. To meet regulated air standards, the economizer control accepts an optional CO_2 input for demand ventilation. With single enthalpy input, the economizer control monitors outdoor air. The dual enthalpy kit provides a second input used to monitor the return air. With a dual input kit installed, the economizer control compares the values of the two enthalpy or temperature inputs and positions the dampers to provide the maximum efficiency possible.
- **Horizontal Economizer** - **(Without barometric relief)** - All features of the downflow economizer exist except you must order the duct mount barometric relief separately. **You must order a 1EH0408 if you are installing a power exhaust. You can order a 1RD0411 Barometric Relief for horizontal flow economizer.**
- **Slab Economizer for Energy Recovery Ventilator**- **(Without barometric relief or Fresh Air Hood)** - The economizer is provided with a single enthalpy input. The economizer is 2% low leakage type. The economizer has spring return, fully modulating damper actuators and is capable of introducing up to 100% outdoor air. As the outdoor air intake dampers open, the return air dampers close. The changeover from mechanical refrigeration to economizer operation is regulated by the standard single enthalpy input. There is an optional input dual dry bulb available. To meet regulated air standards, the economizer control accepts an optional CO_2 input for demand ventilation.With single enthalpy input, the economizer control monitors outdoor air. The dual enthalpy kit provides a second input used to monitor the return air. With a dual input kit installed, the economizer control compares the values of the two enthalpy or temperature inputs and positions the dampers to provide the maximum efficiency possible.

  You can order 1EH0409 Barometric Relief/FA Hood for field installations without an ERV.
- **Dual Enthalpy Control, Accessory** - This kit contains the required components to convert a single enthalpy economizer to dual enthalpy.
- **Barometric Relief Damper** - Zero to 100% capacity barometric relief dampers for use with horizontal flow, or field installed slab economizers.
- **Power Exhaust** - This accessory installs in the unit with a down flow economizer. Power exhaust plugs into the

connector in the unit bulkhead. **You must purchase 1EH0408 barometric relief when applying to a horizontal flow application.**

- **Manual Outdoor Air Damper** - Like the motorized outdoor air damper, each manual outdoor air damper includes a slide-in damper assembly with an outdoor air hood and filters. Customers have a choice of dampers with ranges of 0% to 100% or 0% to 35% outdoor air entry.
- **Motorized Outdoor Air Damper** - The motorized outdoor air damper includes a slide-in/plug-in damper assembly with an outdoor air hood and filters. The outdoor air dampers open to the preset position when the indoor fan motor is energized. The damper has a range of 0% to 100% outdoor air entry. Factory installed option or field installed accessory.
- **Smoke Detectors** - The smoke detectors stop operation of the unit by interrupting power to the control board if smoke is detected within the air compartment.
- **CO_2 Sensor** - Senses CO_2 levels and automatically overrides the economizer when levels rise above the preset limits.
- **Dirty Filter Switch** - This kit includes a differential pressure switch that energizes the fault light on the unit thermostat, indicating that there is an abnormally high pressure drop across the filters.
- **Coil Guard -** Field installed decorative wire coil guard.
- **Hail Guard** - This kit includes a sloped hood which installs over the outside condenser coil and prevents damage to the coil fins from hail strikes. Field installed accessory only.
- **Flue Exhaust Extension Kit** - In locations with wind or weather conditions which may interfere with proper exhausting of furnace combustion products, this kit can be installed to prevent the flue exhaust from entering nearby fresh air intakes.
- **-60°F Gas Heat Kit** - For installations which require gas heat units to perform in low ambient temperatures, a gas section heating kit is available. This kit provides electric heat in the gas heat controls section to ensure the gas valve and controls will continue to function properly at extremely low temperatures.
- **Gas Heat High Altitude Kit** - This kit converts a gas heat unit to operate at high altitudes, 2,000 to 6,000 feet. Conversion kits are available for natural gas and propane.
- **Gas Heat Propane Conversion Kit** - This kit converts a gas-fired heater from natural gas to propane. It contains the main burner orifices and gas valve replacement springs.
- **Gas Piping Kit** - Contains pipe nipples, fittings and gas cock required for gas supply connection with external shut off.
- **Electric Heaters** - The electric heaters range from 9 kW to 54kW and are available in all the voltage options of the base units. All heaters are dual staged. Cooling units include an adapter panel for easy installation of the electric heaters. Necessary hardware and connectors are included with the heaters. All heaters are intended for single point power supply.
- Low Limit / Compressor Lockout Kit
  1. **Compressor Lockout (CLO):** To prevent mechanical (compressorized) operation of the unit during cold outdoor conditions where there is a risk of returning liquid refrigerant back to the compressors.
  2. **Low Limit Control (LLC):** To prevent the supply air from dropping below a specified setpoint by utilizing the units first stage heating means when there is a demand for cooling during cold outside conditions.
- **Metal Frame Filter Kit -** Metal frame with polyester filter medium.
- **Permanent Filters** - Permanent filters are available.
- **Roof Curbs** - The roof curbs have insulated decks and are shipped disassembled The roof curbs are available in 8” and 14” heights. For applications with security concerns, burglar bars are available for the duct openings of the roof curbs.
- **Roof Curb Transition -** Single Piece Adapter (10” High) - Roof curbs for transitioning from Sunline™ units to Predator® units. Fits 7.5 to 12.5 Sunline™ roof curbs only.
- **Burglar Bars** - Mount in the supply and return openings to prevent entry into the duct work.
- **Thermostat** - The units are designed to operate with 24-volt electronic and electro-mechanical thermostats. All units (with or without an economizer) operate with two-stage heat/two-stage cool or two-stage cooling only thermostats, depending upon unit configuration.

REHEAT MODE SEQUENCE OF OPERATION

The reheat control board allows the user to select two different modes of operation via a jumper connection on the board. (See Figure 3.) Each mode is described below. Refer to Figures 3 - 5 when reading this section.

“NORMAL” MODE

When the reheat control board (RCB) detects a need for dehumidification (24VAC) at "HUM" via the field supplied dehumidistat connected to RHTB-1 and RHTB-2 and there is not a call for cooling, it energizes the hot gas relay (HGR), which energizes the 3-way valve (SOL 3), the condenser coil valve (SOL 2), and de-energizes the reheat coil bleed valve (SOL 1). (In the DR150, SOL 2 is only energized when the discharge pressure in circuit #1 rises above 235 psig and de-energizes SOL 2 after the discharge pressure falls below 175 psig. Both outdoor fans of circuit #1 in the DR150 also disengage to conserve energy.) The Y1 signal is passed to the unit control board (UCB), which engages circuit # 1, resulting in circuit #1 reheat mode operation.

When the room thermostat calls for first stage cooling, with or without a call for dehumidification, the RCB senses a signal through "Y1", de-energizing the HGR, which de-energizes SOL 3 and SOL 2 and energizes SOL 1, engaging circuit #1, resulting in circuit #1 cooling mode operation.

When the room thermostat calls for second stage cooling, the RCB senses a signal through "Y1" & "Y2" and engages circuit #1 and circuit #2 in cooling mode.

Indoor blower operation is initiated upon a call for first stage cooling, second stage cooling or dehumidification.

Anytime there is a call for 2 stages of cooling, the unit will not operate in the reheat mode, even if there is a call for dehumidification at "HUM".

The unit will not operate in the reheat mode if there is any call for heating.

On units with economizers, the unit will not operate in the reheat mode if there is a call for cooling and the economizer is operating as first stage of cooling.

All safety devices function as previously described.

"ALTERNATE" MODE

When the RCB detects a need for dehumidification (24VAC) at "HUM" via the field supplied dehumidistat connected to RHTB-1 and RHTB-2, and there is not a call for cooling, it energizes the HGR, which energizes the SOL 3, SOL 2, and de-energizes SOL 1. (In the DR150, SOL 2 is only energized when the discharge pressure in circuit #1 rises above 235 psig and de-energizes SOL 2 after the discharge pressure falls below 175 psig. Both outdoor fans of circuit #1 in the DR150 also disengage to conserve energy.) The unit then operates with circuit #1 in reheat mode and circuit #2 in cooling mode.

When the room thermostat calls for first stage cooling while there is still a call for dehumidification, no operational change is made. The call for cooling is ignored and the unit continues to operate with circuit #1 in reheat mode and circuit #2 in cooling mode.

When the room thermostat calls for second stage cooling, the RCB senses a signal through "Y1" and "Y2" and de-energizes the HGR, which de-energizes SOL 3 and SOL 2, and energizes SOL 1. Both circuits operate in the cooling mode.

Indoor blower operation is initiated upon a call for first stage cooling, second stage cooling or dehumidification.

Anytime there is a call for 2 stages of cooling, the unit will not operate in the reheat mode, even if there is still a call for dehumidification at "HUM".

The unit will not operate in the reheat mode if there is any call for heating.

All safety devices function as previously described.

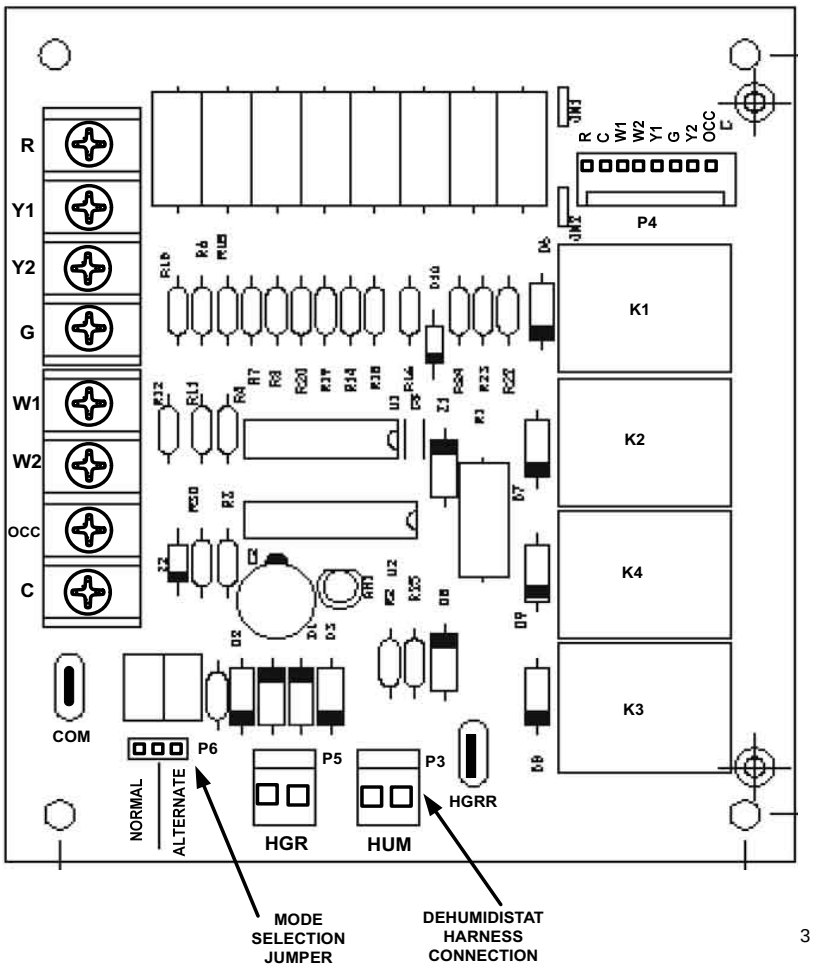


FIGURE 3 - REHEAT CONTROL BOARD

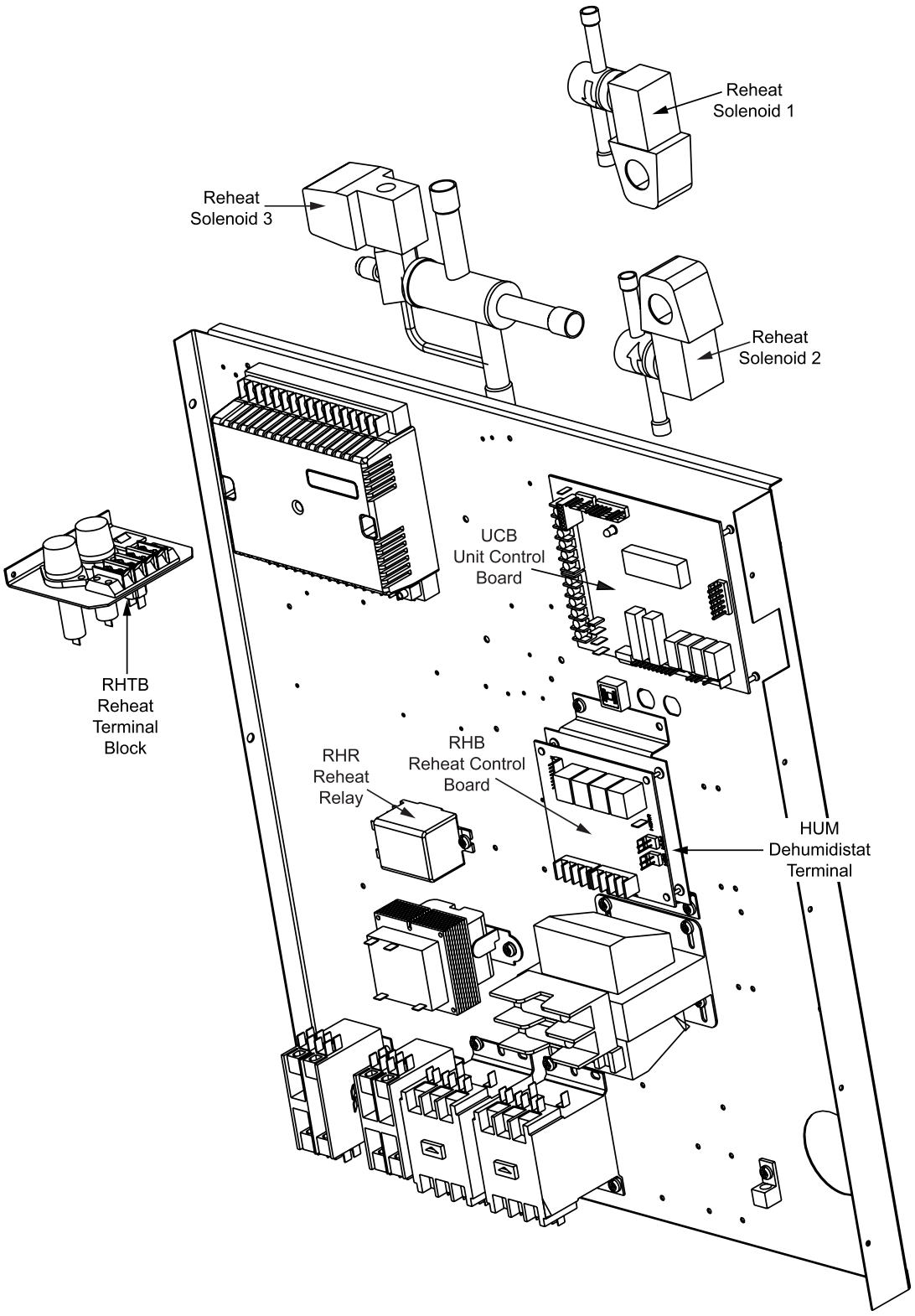


FIGURE 4 - DR090 & 120 REHEAT CONTROLS

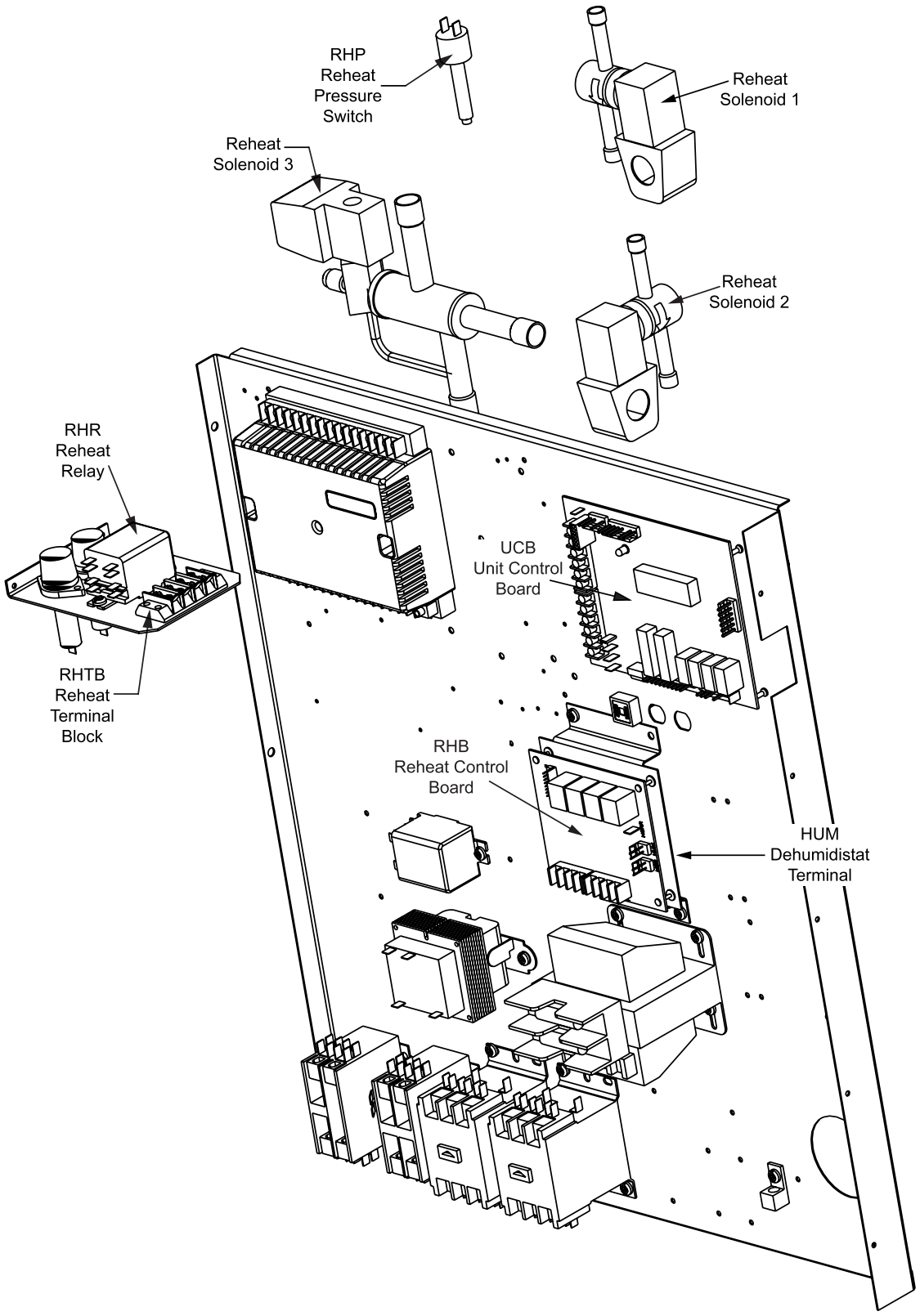


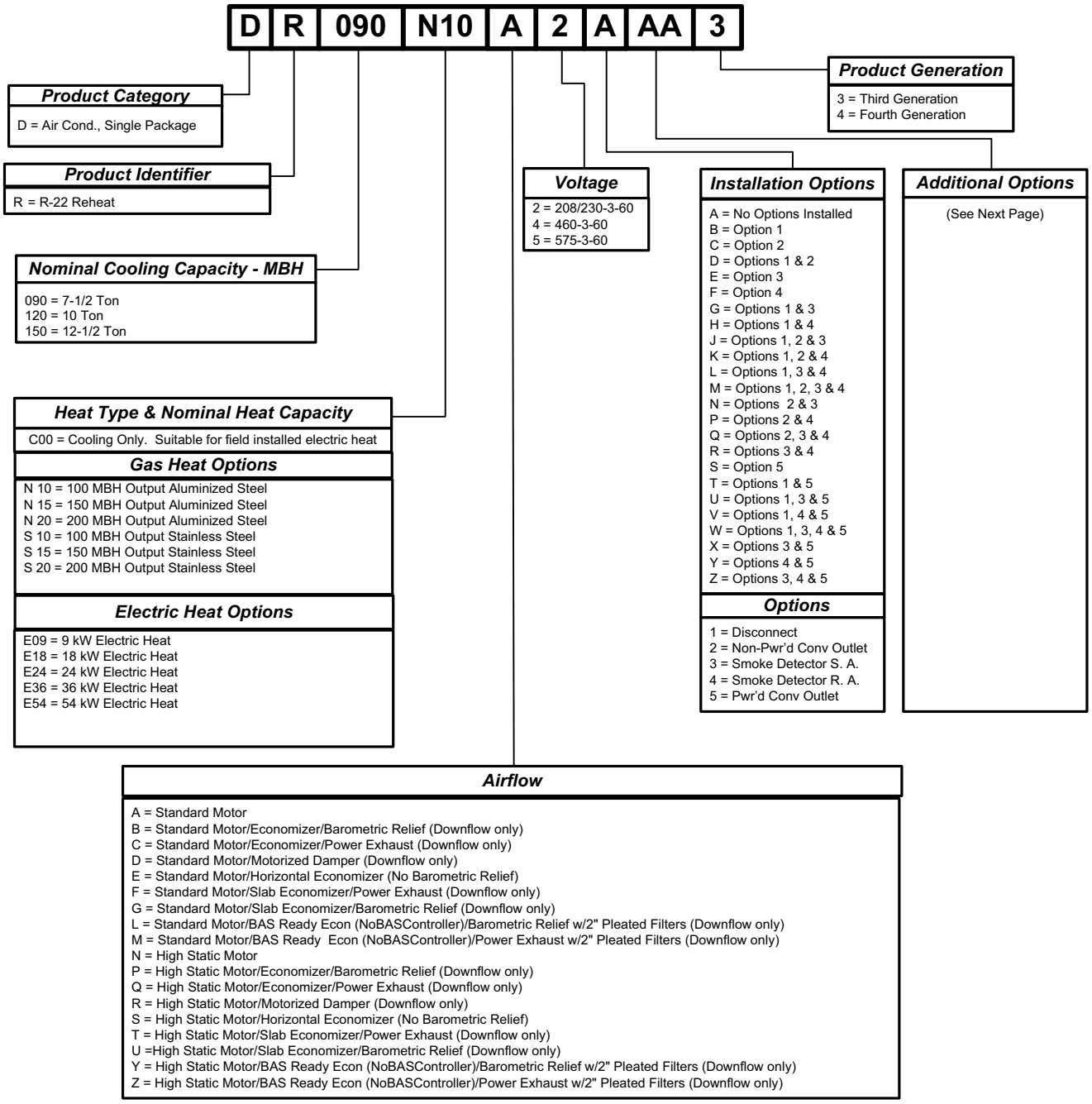
FIGURE 5 - DR150 REHEAT CONTROLS

TABLE 1: ACCESSORIES

Part Number	Description	Weight
1RC0470	Roof Curb, 8" Height	-
1RC0471	Roof Curb, 14" Height	-
1RC0472	Roof Curb, Transition (7.5 T through 12.5 T)	-
1BD0408	Burglar Bars, Downflow	-
2TP04520925	Electric Heat 9kW 230V	-
2TP04521825	Electric Heat 18kW 230V	-
2TP04522425	Electric Heat 24kW 230V	-
2TP04523625	Electric Heat 36kW 230V	-
2TP04525425	Electric Heat 54kW 230V	-
2TP04520946	Electric Heat 9kW 460V	-
2TP04521846	Electric Heat 18kW 460V	-
2TP04522446	Electric Heat 24kW 460V	-
2TP04523646	Electric Heat 36kW 460V	-
2TP04525446	Electric Heat 54kW 460V	-
2TP04520958	Electric Heat 9kW 575V	-
2TP04521858	Electric Heat 18kW 575V	-
2TP04522458	Electric Heat 24kW 575V	-
2TP04523658	Electric Heat 36kW 575V	-
2TP04525458	Electric Heat 54kW 575V	-
1FA0411	Manual Outside Air Damper 0-35%, Downflow (Incl. Hood, Damper & Filters, No Barometric Relief)	-
1FA0412	Manual Outside Air Damper 0-100%, Downflow (Incl. Hood, Damper & Filters, No Barometric Relief)	-
2MD04702724	Motorized Damper, Downflow (Incl. Hood, Damper & Filter, no Barometric Relief)	-
2MD04703324	Motorized Damper, Horizontal (Incl. Hood, Damper & Filter, no Barometric Relief)	
2EE04705024	Economizer, Downflow (Incl. Barometric Relief & All Hoods)	124 lbs.
2EE04705124	Economizer, Horizontal (Incl. Dampers & Hoods, no Barometric Relief)	97 lbs.
2EE04705224	Economizer, Slab, Downflow (Incl. Dampers only no Hoods or Barometric Relief)	
2PE04703225	Power Exhaust, Downflow, 230V (For Units with Economizer only)	-
2PE04703246	Power Exhaust, Downflow, 460V(For Units with Economizer only)	-
2PE04703258	Power Exhaust, Downflow, 580V (For Units with Economizer only)	-
2EC04700924	Dual Enthalpy Control (Use with Single Enthalpy Economizer)	-
1EH0407	Hood Kit, Downflow Economizer (Included with all Downflow Economizers)	
1RD0411	Barometric Relief Kit, Ductmount for Horizontal Application (Incl. Damper & Hood)	
1EH0408	Barometric Relief Kit, Ductmount for Horizontal Application w/Power Exhaust (Incl. Damper & Hood)	25 lbs.
1EH0409	Barometric Relief / Hood Kit, for Field Installed Slab Econ. w/o ERV (Incl. Barometric Relief & FA Hood)	-
2AQ04700424	CO2 Detector Unit Mount	-
2AQ04700324	CO2 Detector Space Mount	-
2SD04700424	Smoke Detector, Supply or Return (Return Not Available with Horizontal Economizer)	-
2MK04700624	Low Limit / Compressor Lockout Kit	
1CG0419	Coil Guard (Electric / Electric & HP models): DR090 & 120	-
1CG0420	Coil Guard (Gas / Electric models): DR090 & 120	-
1CG0424	Coil Guard (Electric / Electric & HP models): DR150	
1CG0425	Coil Guard (Gas / Electric models): DR150	
1HG0411	Hail Guard Kit	-
1GP0404	Gas Piping Kit	-
1NP0441	Propane Conversion Kit	-
1HA0442	High Altitude Kit for Natural Gas	-
1HA0443	High Altitude Kit for Propane	-
1FE0411	Flue Exhaust Extension Kit	-
2BC04700106	Gas Heat Kit, -60 deg F, 230V	-
2BC04700151	Gas Heat Kit, -60 deg F, 460V	-
2BC04700154	Gas Heat Kit, -60 deg F, 575V	-
1FL0402	Permanent Filter Kit	-
2DF0401	Dirty Filter Switch	-
1FF0410	Filter Frame Kit, Metal	-

NOMENCLATURE

Predator MagnaDRY™ Model Number Nomenclature


D R 090 N10 A 2 A AA 3
Product Category
D = Air Cond., Single Package
Product Identifier
R = R-22 Reheat
Nominal Cooling Capacity - MBH
090 = 7-1/2 Ton
120 = 10 Ton
150 = 12-1/2 Ton
Heat Type & Nominal Heat Capacity
C00 = Cooling Only. Suitable for field installed electric heat
Gas Heat Options
N 10 = 100 MBH Output Aluminized Steel
N 15 = 150 MBH Output Aluminized Steel
N 20 = 200 MBH Output Aluminized Steel
S 10 = 100 MBH Output Stainless Steel
S 15 = 150 MBH Output Stainless Steel
S 20 = 200 MBH Output Stainless Steel
Electric Heat Options
E09 = 9 kW Electric Heat
E18 = 18 kW Electric Heat
E24 = 24 kW Electric Heat
E36 = 36 kW Electric Heat
E54 = 54 kW Electric Heat
Airflow
A = Standard Motor
B = Standard Motor/Economizer/Barometric Relief (Downflow only)
C = Standard Motor/Economizer/Power Exhaust (Downflow only)
D = Standard Motor/Motorized Damper (Downflow only)
E = Standard Motor/Horizontal Economizer (No Barometric Relief)
F = Standard Motor/Slab Economizer/Power Exhaust (Downflow only)
G = Standard Motor/Slab Economizer/Barometric Relief (Downflow only)
L = Standard Motor/BAS Ready Econ (NoBASController)/Barometric Relief w/2" Pleated Filters (Downflow only)
M = Standard Motor/BAS Ready Econ (NoBASController)/Power Exhaust w/2" Pleated Filters (Downflow only)
N = High Static Motor
P = High Static Motor/Economizer/Barometric Relief (Downflow only)
Q = High Static Motor/Economizer/Power Exhaust (Downflow only)
R = High Static Motor/Motorized Damper (Downflow only)
S = High Static Motor/Horizontal Economizer (No Barometric Relief)
T = High Static Motor/Slab Economizer/Power Exhaust (Downflow only)
U =High Static Motor/Slab Economizer/Barometric Relief (Downflow only)
Y = High Static Motor/BAS Ready Econ (NoBASController)/Barometric Relief w/2" Pleated Filters (Downflow only)
Z = High Static Motor/BAS Ready Econ (NoBASController)/Power Exhaust w/2" Pleated Filters (Downflow only)
Voltage
2 = 208/230-3-60
4 = 460-3-60
5 = 575-3-60
Installation Options
A = No Options Installed
B = Option 1
C = Option 2
D = Options 1 & 2
E = Option 3
F = Option 4
G = Options 1 & 3
H = Options 1 & 4
J = Options 1, 2 & 3
K = Options 1, 2 & 4
L = Options 1, 3 & 4
M = Options 1, 2, 3 & 4
N = Options 2 & 3
P = Options 2 & 4
Q = Options 2, 3 & 4
R = Options 3 & 4
S = Option 5
T = Options 1 & 5
U = Options 1, 3 & 5
V = Options 1, 4 & 5
W = Options 1, 3, 4 & 5
X = Options 3 & 5
Y = Options 4 & 5
Z = Options 3, 4 & 5
Options
1 = Disconnect
2 = Non-Pwr'd Conv Outlet
3 = Smoke Detector S. A.
4 = Smoke Detector R. A.
5 = Pwr'd Conv Outlet
Additional Options
(See Next Page)
Product Generation
3 = Third Generation
4 = Fourth Generation

NOMENCLATURE ADDITIONAL OPTIONS:

AA	None
AB	Phase Monitor
AC	Coil Guard
AD	Dirty Filter Switch
AE	Phase Monitor & Coil Guard
AF	Phase Monitor & Dirty Filter Switch
AG	Coil Guard & Dirty Filter Switch
AH	Phase Monitor, Coil Guard, & Dirty Filter Switch
AJ	SS Drain Pan
AK	SS Drain Pan & Phase Monitor
AL	SS Drain Pan & Coil Guard
AM	SS Drain Pan & Dirty Filter Switch
AN	SS Drain Pan, Phase Monitor, Coil Guard & Dirty Filter Switch
CA	CPC Controller with Dirty Filter Switch & Air Proving Switch
CB	CPC Controller, DFS, APS & Phase Monitor
CC	CPC Controller, DFS, APS & Coil Guard
CD	CPC Controller, DFS, APS, Phase Monitor, & Coil Guard
CE	CPC Controller, DFS, APS & Technicoat Cond. Coil
CF	CPC Controller, DFS, APS, Technicoat Cond. Coil, & Phase Monitor
CG	CPC Controller, DFS, APS, Technicoat Cond. Coil, & Coil Guard
CH	CPC Controller, DFS, APS, Technicoat Cond. Coil, Phase Monitor, & Coil Guard
CJ	CPC Controller, DFS, APS & Technicoat Evap. Coil
CK	CPC Controller, DFS, APS, Technicoat Evap. Coil, & Phase Monitor
CL	CPC Controller, DFS, APS, Technicoat Evap. Coil, & Coil Guard
CM	CPC Controller, DFS, APS, Technicoat Evap. Coil, Phase Monitor, & Coil Guard
CN	CPC Controller, DFS, APS & Technicoat Evap. & Cond Coils
CP	CPC Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Phase Monitor
CQ	CPC Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Coil Guard
CR	CPC Controller, DFS, APS, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard
CS	CPC Controller, DFS, APS, SS Drain Pan
CT	CPC Controller, DFS, APS, SS Drain Pan, Phase Monitor, & Coil Guard
CU	CPC Controller, DFS, APS, SS Drain Pan, & Technicoat Cond Coils
CV	CPC Controller, DFS, APS, SS Drain Pan, & Technicoat Evap Coil
CW	CPC Controller, DFS, APS, SS Drain Pan, & Technicoat Evap and Cond Coils
CX	CPC Controller, DFS, APS, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils
JA	Johnson UNT Controller with Dirty Filter Switch & Air Proving Switch
JB	Johnson UNT Controller, DFS, APS & Phase Monitor
JC	Johnson UNT Controller, DFS, APS & Coil Guard
JD	Johnson UNT Controller, DFS, APS, Phase Monitor, & Coil Guard
JE	Johnson UNT Controller, DFS, APS & Technicoat Cond. Coil
JF	Johnson UNT Controller, DFS, APS, Technicoat Cond. Coil, & Phase Monitor
JG	Johnson UNT Controller, DFS, APS, Technicoat Cond. Coil, & Coil Guard
JH	Johnson UNT Controller, DFS, APS, Technicoat Cond. Coil, Phase Monitor, & Coil Guard
JJ	Johnson UNT Controller, DFS, APS & Technicoat Evap. Coil
JK	Johnson UNT Controller, DFS, APS, Technicoat Evap. Coil, & Phase Monitor
JL	Johnson UNT Controller, DFS, APS, Technicoat Evap. Coil, & Coil Guard
JM	Johnson UNT Controller, DFS, APS, Technicoat Evap. Coil, Phase Monitor, & Coil Guard
JN	Johnson UNT Controller, DFS, APS & Technicoat Evap. & Cond Coils
JP	Johnson UNT Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Phase Monitor
JQ	Johnson UNT Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Coil Guard
JR	Johnson UNT Controller, DFS, APS, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard
JS	Johnson UNT Controller, DFS, APS, SS Drain Pan
JT	Johnson UNT Controller, DFS, APS, SS Drain Pan, Phase Monitor, & Coil Guard
JU	Johnson UNT Controller, DFS, APS, SS Drain Pan, & Technicoat Cond Coils
JV	Johnson UNT Controller, DFS, APS, SS Drain Pan, & Technicoat Evap Coil
JW	Johnson UNT Controller, DFS, APS, SS Drain Pan, & Technicoat Evap and Cond Coils
JX	Johnson UNT Controller, DFS, APS, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils
HA	Honeywell Excel 10 Controller with Dirty Filter Switch & Air Proving Switch

HB	Honeywell Excel 10 Controller, DFS, APS & Phase Monitor
HC	Honeywell Excel 10 Controller, DFS, APS & Coil Guard
HD	Honeywell Excel 10 Controller, DFS, APS, Phase Monitor, & Coil Guard
HE	Honeywell Excel 10 Controller, DFS, APS & Technicoat Cond. Coil
HF	Honeywell Excel 10 Controller, DFS, APS, Technicoat Cond. Coil, & Phase Monitor
HG	Honeywell Excel 10 Controller, DFS, APS, Technicoat Cond. Coil, & Coil Guard
HH	Honeywell Excel 10 Controller, DFS, APS, Technicoat Cond. Coil, Phase Monitor, & Coil Guard
HJ	Honeywell Excel 10 Controller, DFS, APS & Technicoat Evap. Coil
HK	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. Coil, & Phase Monitor
HL	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. Coil, & Coil Guard
HM	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. Coil, Phase Monitor, & Coil Guard
HN	Honeywell Excel 10 Controller, DFS, APS & Technicoat Evap. & Cond Coils
HP	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Phase Monitor
HQ	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Coil Guard
HR	Honeywell Excel 10 Controller, DFS, APS, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard
HS	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan
HT	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan, Phase Monitor, & Coil Guard
HU	Honeywell Excel 10 Controller, DFS, APS, SS Drain Pan, & Technicoat Cond Coils
HV	Honeywell Excel 10 Controller,DFS, APS, SS Drain Pan, & Technicoat Evap Coil
HW	Honeywell Excel 10 Controller,DFS, APS, SS Drain Pan, & Technicoat Evap and Cond Coils
HX	Honeywell Excel 10 Controller,DFS, APS, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils
WA	Intelli-Comfort w/ModLINC Controller with Dirty Filter Switch & Air Proving Switch
WB	Intelli-Comfort w/ModLINC Controller, & Phase Monitor
WC	Intelli-Comfort w/ModLINC Controller, & Coil Guard
WD	Intelli-Comfort w/ModLINC Controller, Phase Monitor, & Coil Guard
WE	Intelli-Comfort w/ModLINC Controller, & Technicoat Cond. Coil
WF	Intelli-Comfort w/ModLINC Controller, Technicoat Cond. Coil, & Phase Monitor
WG	Intelli-Comfort w/ModLINC Controller, Technicoat Cond. Coil, & Coil Guard
WH	Intelli-Comfort w/ModLINC Controller, Technicoat Cond. Coil, Phase Monitor, & Coil Guard
WJ	Intelli-Comfort w/ModLINC Controller, & Technicoat Evap. Coil
WK	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. Coil, & Phase Monitor
WL	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. Coil, & Coil Guard
WM	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. Coil, Phase Monitor, & Coil Guard
WN	Intelli-Comfort w/ModLINC Controller, & Technicoat Evap. & Cond Coils
WP	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. & Cond Coils, & Phase Monitor
WQ	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. & Cond Coils, & Coil Guard
WR	Intelli-Comfort w/ModLINC Controller, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard
WS	Intelli-Comfort w/ModLINC Controller, SS Drain Pan
WT	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, Phase Monitor, & Coil Guard
WU	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, & Technicoat Cond Coils
WV	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, & Technicoat Evap Coil
WW	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, & Technicoat Evap and Cond Coils
WX	Intelli-Comfort w/ModLINC Controller, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils
NA	Novar ETC-3 Controller with Dirty Filter Switch & Air Proving Switch
NB	Novar ETC-3 Controller, DFS, APS & Phase Monitor
NC	Novar ETC-3 Controller, DFS, APS & Coil Guard
ND	Novar ETC-3 Controller, DFS, APS, Phase Monitor, & Coil Guard
NE	Novar ETC-3 Controller, DFS, APS & Technicoat Cond. Coil
NF	Novar ETC-3 Controller, DFS, APS, Technicoat Cond. Coil, & Phase Monitor
NG	Novar ETC-3 Controller, DFS, APS, Technicoat Cond. Coil, & Coil Guard
NH	Novar ETC-3 Controller, DFS, APS, Technicoat Cond. Coil, Phase Monitor, & Coil Guard
NJ	Novar ETC-3 Controller, DFS, APS & Technicoat Evap. Coil
NK	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. Coil, & Phase Monitor
NL	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. Coil, & Coil Guard
NM	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. Coil, Phase Monitor, & Coil Guard
NN	Novar ETC-3 Controller, DFS, APS & Technicoat Evap. & Cond Coils
NP	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Phase Monitor
NQ	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. & Cond Coils, & Coil Guard
NR	Novar ETC-3 Controller, DFS, APS, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard

NS	Novar ETC-3 Controller, DFS, APS, SS Drain Pan
NT	Novar ETC-3 Controller, DFS, APS, SS Drain Pan, Phase Monitor, & Coil Guard
NU	Novar ETC-3 Controller, DFS, APS, SS Drain Pan, & Technicoat Cond Coils
NV	Novar ETC-3 Controller, DFS, APS, SS Drain Pan, & Technicoat Evap Coil
NW	Novar ETC-3, DFS, APS, SS Drain Pan, & Technicoat Evap and Cond Coils
NX	Novar ETC-3 Controller, DFS, APS, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils
LA	Simplicity Intelli-Comfort Controller
LB	Simplicity Intelli-Comfort Controller, & Phase Monitor
LC	Simplicity Intelli-Comfort Controller, & Coil Guard
LD	Simplicity Intelli-Comfort Controller, Phase Monitor, & Coil Guard
LE	Simplicity Intelli-Comfort Controller, & Technicoat Cond. Coil
LF	Simplicity Intelli-Comfort Controller, Technicoat Cond. Coil, & Phase Monitor
LG	Simplicity Intelli-Comfort Controller, Technicoat Cond. Coil, & Coil Guard
LH	Simplicity Intelli-Comfort Controller, Technicoat Cond. Coil, Phase Monitor, & Coil Guard
LJ	Simplicity Intelli-Comfort Controller, & Technicoat Evap. Coil
LK	Simplicity Intelli-Comfort Controller, Technicoat Evap. Coil, & Phase Monitor
LL	Simplicity Intelli-Comfort Controller, Technicoat Evap. Coil, & Coil Guard
LM	Simplicity Intelli-Comfort Controller, Technicoat Evap. Coil, Phase Monitor, & Coil Guard
LN	Simplicity Intelli-Comfort Controller, & Technicoat Evap. & Cond Coils
LP	Simplicity Intelli-Comfort Controller, Technicoat Evap. & Cond Coils, & Phase Monitor
LQ	Simplicity Intelli-Comfort Controller, Technicoat Evap. & Cond Coils, & Coil Guard
LR	Simplicity Intelli-Comfort Controller, Technicoat Evap. & Cond Coils, Phase Monitor, & Coil Guard
LS	Simplicity Intelli-Comfort Controller, SS Drain Pan
LT	Simplicity Intelli-Comfort Controller, SS Drain Pan, Phase Monitor, & Coil Guard
LU	Simplicity Intelli-Comfort Controller, SS Drain Pan, & Technicoat Cond Coils
LV	Simplicity Intelli-Comfort Controller, SS Drain Pan, & Technicoat Evap Coil
LW	Simplicity Intelli-Comfort Controller, SS Drain Pan, & Technicoat Evap and Cond Coils
LX	Simplicity Intelli-Comfort Controller, SS Drain Pan, Phase Monitor, Coil Guard, & Technicoat Evap and Cond Coils
TA	Technicoat Condenser Coil
TB	Technicoat Condenser Coil & Phase Monitor
TC	Technicoat Condenser Coil & Coil Guard
TD	Technicoat Condenser Coil & Dirty Filter Switch
TE	Technicoat Condenser Coil, Phase Monitor, & Coil Guard
TF	Technicoat Condenser Coil, Phase Monitor, & Dirty Filter Switch
TG	Technicoat Condenser Coil, Coil Guard, & Dirty Filter Switch
TH	Technicoat Condenser Coil, Phase Monitor, Coil Guard, & Dirty Filter Switch
TJ	Technicoat Evaporator Coil
TK	Technicoat Evaporator Coil & Phase Monitor
TL	Technicoat Evaporator Coil & Coil Guard
TM	Technicoat Evaporator Coil & Dirty Filter Switch
TN	Technicoat Evaporator Coil, Phase Monitor, & Coil Guard
TP	Technicoat Evaporator Coil, Phase Monitor, & Dirty Filter Switch
TQ	Technicoat Evaporator Coil, Coil Guard, & Dirty Filter Switch
TR	Technicoat Evaporator Coil, Phase Monitor, Coil Guard, & Dirty Filter Switch
TS	Technicoat Evaporator & Condenser Coils
TT	Technicoat Evaporator & Condenser Coils & Phase Monitor
TU	Technicoat Evaporator & Condenser Coils & Coil Guard
TV	Technicoat Evaporator & Condenser Coils & Dirty Filter Switch
TW	Technicoat Evaporator & Condenser Coils, Phase Monitor, & Coil Guard
TX	Technicoat Evaporator & Condenser Coils, Phase Monitor, & Dirty Filter Switch
TY	Technicoat Evaporator & Condenser Coils, Coil Guard, & Dirty Filter Switch
TZ	Technicoat Evaporator & Condenser Coils, Phase Monitor, Coil Guard, & Dirty Filter Switch
T1	Technicoat Condenser & SS Drain Pan
T3	Technicoat Condenser Coil, SS Drain Pan, Phase Monitor, Coil Guard, & Dirty Filter Switch
T4	Technicoat Evaporator & SS Drain Pan
T6	Technicoat Evaporator Coil, SS Drain Pan, Phase Monitor, Coil Guard, & Dirty Filter Switch
T7	Technicoat Evaporator & Condenser Coils & SS Drain Pan
T9	Technicoat Evaporator & Condenser Coils, SS Drain Pan, Phase Monitor, Coil Guard, & Dirty Filter Switch

TABLE 2: PHYSICAL DATA

Component		Models		
		90	**120**	**150**
Evaporator Blower	Blower, Centrifugal (Dia. X Wd. In.)	15 x 15	15 x 15	15 x 15
	Motor, Standard (HP)	1-1/2	2	3
	Motor, Optional (HP)	2	3	5
Evaporator Coil	Rows	3	4	4
	Fins per Inch	15	15	15
	Height (in.)	32	40	40
	Face Area (ft.2)	10.6	13.2	13.2
Reheat Coil	Rows	2	2	2
	Fins per Inch	13	13	13
	Height (in.)	28	36	36
	Face Area (ft.2)	7.8	10	10
Condenser Fan	Quantity	2	2	4
	Propeller Dia. (in., each)	24	24	24
	Motor (HP, each)	1/3	3/4	1/3
	CFM, Nominal (each)	3400	4400	3500
Condenser Coil	Number of Coils	2	2	4
	Rows (each)	1	2	2
	Fins per Inch	20	20	15
	Height (in., each)	44	44	36
	Face Area (ft.2 each)	14.5	14.5	11.9
Refrigerant Charge	System 1 (lb./oz.)	8/0	12/12	22/8
	System 2 (lb./oz.)	6/6	10/2	21/4
Compressors	Quantity	2	2	2
	Type	Recip.	Recip.	Scroll
Air Filters	Size (Wd. X Ht. X Thickness in.)	25 x 20 x 2	25 x 20 x 2	25 x 20 x 2
	Quantity	4	4	4

TABLE 3: DR CAPACITY RATINGS

Size	Model	Cooling Capacity ARI Ratings[1]			CFM	Sound Rating (dB)[2]	Nominal Electric Heat Capacity[3] (kW)	Gas Heat Capacity				Gas Line Size (in. OD)
		MBH	EER	IPLV				Input (MBH)	Output (MBH)	Seasonal Efficiency (%)	Temp. Rise (°F)	
090	Cooling Only	90	11.2	11.65	3000	84	-	-	-	-	-	-
	Electric Heat						9, 18, 24, 36	-	-	-	-	-
	Gas Heat						-	120	96	80	15-45	3/4
	Gas Heat						-	180	144	80	30-60	3/4
120	Cooling Only	116	11.2	11.40	3480	90	-	-	-	-	-	-
	Electric Heat						18, 24, 36, 54	-	-	-	-	-
	Gas Heat						-	180	144	80	20-50	3/4
	Gas Heat						-	240	192	80	35-65	3/4
150	Cooling Only	148	11.1	11.7	3750	86	-	-	-	-	-	-
	Electric Heat						18, 24, 36, 54	-	-	-	-	-
	Gas Heat						-	180	144	80	10-40	3/4
	Gas Heat						-	240	192	80	25-55	3/4

1. Rated at 95°F ambient 80°F dry bulb and 67°F wet bulb.
2. Rated in accordance with ARI 270 standard.
3. See Table 15.

TABLE 4: UNIT VOLTAGE LIMITATIONS

POWER RATING	MIN.	MAX.
208/230-3-60	187	252
460-3-60	432	504
575-3-60	540	630

TABLE 5: COOLING CAPACITY DR090 UNIT

Air On Evap. Coil		Temperature of Air on Condenser Coil 85°F									Temperature of Air on Condenser Coil 95°F								
CFM	WB (°F)	Total Cap.* (MBH)	Tot. Input† (kW)	Sensible Capacity (MBH) Return Dry Bulb (°F) 86	83	80	77	74	71	68	Total Cap.* (MBH)	Tot. Input† (kW)	Sensible Capacity (MBH) Return Dry Bulb (°F) 86	83	80	77	74	71	68
2250	72	105	6.7	60	54	47	41	35	28	22	96	7.3	57	50	44	38	31	25	18
	67	94	6.5	73	67	61	54	48	41	35	87	7.1	70	64	57	51	45	38	32
	62	85	6.3	85	79	72	66	60	53	47	78	6.9	78	74	68	62	55	49	42
	57	82	6.3	82	82	75	69	62	56	50	78	6.9	78	76	70	63	57	50	44
2625	72	109	6.8	67	59	51	44	36	29	21	100	7.4	63	56	48	40	33	25	18
	67	97	6.6	81	73	66	58	50	43	35	90	7.2	78	70	63	55	48	40	32
	62	88	6.4	88	85	78	71	63	56	48	81	7.0	81	79	74	67	59	51	44
	57	85	6.4	85	85	82	74	66	59	51	81	7.0	81	80	76	68	61	53	46
3000	72	113	6.9	73	64	55	47	38	29	20	104	7.5	70	61	52	43	35	26	17
	67	101	6.8	88	79	71	62	53	44	36	93	7.3	85	77	68	59	50	42	33
	62	90	6.6	90	90	84	76	67	58	49	84	7.1	84	84	80	72	63	54	45
	57	88	6.6	88	88	88	79	70	62	53	84	7.0	84	84	82	74	65	56	47
3375	72	115	7.0	79	69	59	49	39	29	19	105	7.5	75	65	55	45	35	25	15
	67	103	6.8	95	85	75	65	55	45	35	94	7.3	90	82	72	62	52	42	32
	62	92	6.6	92	92	89	79	70	60	50	85	7.1	85	85	83	73	63	54	44
	57	90	6.6	90	90	90	80	70	60	50	85	7.1	85	85	84	74	64	54	44
3750	72	118	7.0	85	74	62	51	40	29	18	106	7.6	80	69	58	47	36	25	13
	67	105	6.8	102	91	80	69	57	46	35	96	7.3	96	87	76	65	53	42	31
	62	94	6.6	94	94	94	83	72	61	50	86	7.1	86	86	86	75	64	53	42
	57	92	6.6	92	92	92	81	69	58	47	86	7.1	86	86	86	74	63	52	41
		Temperature of Air on Condenser Coil 105°F									Temperature of Air on Condenser Coil 115°F								
2250	72	88	7.8	55	48	42	35	29	23	16	81	8.3	52	46	40	33	27	20	14
	67	79	7.6	67	61	54	48	41	35	28	71	8.0	64	57	51	44	38	31	25
	62	72	7.4	72	70	63	57	50	44	38	65	7.8	65	65	58	52	46	39	33
	57	72	7.4	72	71	64	58	51	45	39	66	7.8	66	65	59	52	46	40	33
2625	72	91	7.9	61	53	46	38	31	23	15	83	8.4	58	51	43	36	28	21	13
	67	82	7.6	74	67	59	51	44	36	29	74	8.1	70	63	55	48	40	33	25
	62	74	7.4	74	73	69	61	54	46	39	68	7.9	68	67	64	56	49	41	34
	57	75	7.4	75	74	70	63	55	47	40	68	7.9	68	68	64	57	49	42	34
3000	72	95	8.0	67	58	50	41	32	23	15	86	8.5	65	56	47	38	30	21	12
	67	85	7.7	81	73	64	55	47	38	29	76	8.2	76	69	60	51	43	34	25
	62	77	7.5	77	77	75	66	57	49	40	70	8.0	70	70	69	61	52	43	34
	57	77	7.5	77	77	76	67	59	50	41	71	8.0	71	71	70	61	52	44	35
3375	72	95	8.0	72	62	52	42	32	22	12	86	8.6	69	59	49	39	29	19	9
	67	85	7.8	83	77	68	58	48	38	28	76	8.3	76	73	63	53	43	33	23
	62	78	7.6	78	78	76	67	57	47	37	70	8.0	70	70	70	60	50	40	30
	57	78	7.6	78	78	77	67	57	47	37	71	8.1	71	71	70	60	50	40	30
3750	72	96	8.1	77	66	55	44	33	21	10	86	8.6	74	63	52	40	29	18	7
	67	86	7.8	86	82	71	60	49	37	26	76	8.4	76	76	66	55	44	33	21
	62	78	7.6	78	78	78	67	56	45	33	70	8.1	70	70	70	59	47	36	25
	57	78	7.6	78	78	78	67	56	45	33	71	8.2	71	71	71	59	48	37	26
		Temperature of Air on Condenser Coil 125°F																	
2250	72	73	8.8	50	44	37	31	25	18	12									
	67	64	8.5	60	54	47	41	35	28	22									
	62	59	8.2	59	59	54	47	41	34	28									
	57	61	8.3	61	60	53	47	41	34	28									
2625	72	75	8.9	56	49	41	33	26	18	11									
	67	66	8.6	66	59	52	44	37	29	22									
	62	61	8.3	61	61	59	51	44	36	28									
	57	62	8.4	62	62	59	51	43	36	28									
3000	72	77	9.0	62	53	45	36	27	18	10									
	67	67	8.6	67	65	56	48	39	30	21									
	62	62	8.4	62	62	62	55	46	38	29									
	57	64	8.5	64	64	64	55	46	37	29									
3375	72	76	9.1	66	56	46	36	27	17	7									
	67	67	8.7	67	67	59	49	39	29	19									
	62	62	8.5	62	62	62	53	43	33	23									
	57	64	8.6	64	64	63	53	43	33	23									
3750	72	76	9.2	71	60	48	37	26	15	4									
	67	66	8.9	66	66	61	50	39	28	17									
	62	61	8.6	61	61	61	50	39	28	17									
	57	63	8.7	63	63	63	52	41	30	18									

* - These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.

† - These ratings include the condensate fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

\- No sensible cooling capacity.

TABLE 6: COOLING CAPACITY DR090 UNIT (ALTERNATE REHEAT MODE)

Air On Evap. Coil		Temperature of Air on Condenser Coil 85°F									Temperature of Air on Condenser Coil 95°F								
CFM	WB (°F)	Total Cap.* (MBH)	Tot. Input† (kW)	Sensible Capacity (MBH) Return Dry Bulb (°F)							Total Cap.* (MBH)	Tot. Input† (kW)	Sensible Capacity (MBH) Return Dry Bulb (°F)						
				86	83	80	77	74	71	68			86	83	80	77	74	71	68
2250	72	44	6.6	10	3	-	-	-	-	-	39	6.9	10	4	-	-	-	-	-
	67	39	6.3	17	11	4	-	-	-	-	34	6.6	14	8	2	-	-	-	-
	62	35	6.0	24	18	11	5	-	-	-	29	6.2	19	12	6	-	-	-	-
	57	37	5.7	28	21	15	8	2	-	-	33	5.9	20	14	8	1	-	-	-
2625	72	45	6.6	9	2	-	-	-	-	-	40	6.9	8	-	-	-	-	-	-
	67	41	6.3	23	15	8	-	-	-	-	35	6.6	20	12	5	-	-	-	-
	62	36	6.1	31	28	21	13	5	-	-	30	6.3	25	22	17	9	2	-	-
	57	39	5.7	34	31	27	20	12	4	-	35	6.0	28	25	21	14	6	-	-
3000	72	47	6.6	9	-	-	-	-	-	-	41	6.9	5	-	-	-	-	-	-
	67	42	6.3	29	20	11	2	-	-	-	37	6.7	25	16	8	-	-	-	-
	62	37	6.1	37	37	30	21	12	4	-	31	6.3	31	31	27	19	10	1	-
	57	40	5.7	40	40	39	31	22	13	4	36	6.0	36	36	35	27	18	9	-
3375	72	48	6.7	10	-	-	-	-	-	-	42	7.0	4	-	-	-	-	-	-
	67	43	6.3	34	24	14	4	-	-	-	37	6.7	30	20	10	-	-	-	-
	62	38	6.1	38	38	35	25	15	5	-	32	6.4	32	32	30	20	10	-	-
	57	41	5.7	41	41	41	31	21	11	1	37	6.0	37	37	36	26	16	6	-
3750	72	50	6.7	10	-	-	-	-	-	-	43	7.0	3	-	-	-	-	-	-
	67	44	6.4	38	27	16	5	-	-	-	38	6.7	35	23	12	1	-	-	-
	62	40	6.1	40	40	40	28	17	6	-	33	6.4	33	33	33	22	10	-	-
	57	42	5.7	42	42	42	31	20	9	-	37	6.0	37	37	37	26	15	4	-
		Temperature of Air on Condenser Coil 105°F									Temperature of Air on Condenser Coil 115°F								
2250	72	34	7.2	20	17	13	7	-	-	-	29	7.5	29	29	29	22	16	10	3
	67	29	6.8	12	6	-	-	-	-	-	25	7.1	10	3	-	-	-	-	-
	62	25	6.5	-	-	-	-	-	-	-	21	6.8	-	-	-	-	-	-	-
	57	29	6.2	-	-	-	-	-	-	-	25	6.5	-	-	-	-	-	-	-
2625	72	35	7.2	11	5	-	-	-	-	-	30	7.5	14	10	5	-	-	-	-
	67	30	6.9	17	10	2	-	-	-	-	26	7.1	15	7	-	-	-	-	-
	62	26	6.5	13	10	5	-	-	-	-	22	6.8	2	-	-	-	-	-	-
	57	30	6.2	13	10	7	-	-	-	-	26	6.5	-	-	-	-	-	-	-
3000	72	36	7.2	2	-	-	-	-	-	-	31	7.5	-	-	-	-	-	-	-
	67	31	6.9	22	14	5	-	-	-	-	26	7.1	20	11	2	-	-	-	-
	62	27	6.6	27	27	24	15	6	-	-	23	6.8	23	23	20	11	2	-	-
	57	31	6.3	31	31	31	22	14	5	-	27	6.6	27	27	27	18	9	1	-
3375	72	36	7.3	-	-	-	-	-	-	-	30	7.6	-	-	-	-	-	-	-
	67	32	6.9	26	17	7	-	-	-	-	26	7.2	22	13	3	-	-	-	-
	62	27	6.6	27	27	25	15	5	-	-	22	6.9	22	22	21	11	1	-	-
	57	31	6.3	31	31	31	21	11	1	-	26	6.6	26	26	26	16	6	-	-
3750	72	37	7.3	-	-	-	-	-	-	-	30	7.6	-	-	-	-	-	-	-
	67	32	7.0	30	19	8	-	-	-	-	25	7.3	25	15	4	-	-	-	-
	62	27	6.7	27	27	27	16	5	-	-	22	6.9	22	22	22	10	-	-	-
	57	32	6.4	32	32	32	20	9	-	-	26	6.7	26	26	26	15	3	-	-
		Temperature of Air on Condenser Coil 125°F																	
2250	72	25	7.7	25	25	25	25	25	25	19									
	67	20	7.3	7	1	-	-	-	-	-									
	62	17	7.0	-	-	-	-	-	-	-									
	57	21	6.8	-	-	-	-	-	-	-									
2625	72	25	7.8	18	15	12	4	-	-	-									
	67	21	7.4	12	4	-	-	-	-	-									
	62	18	7.1	-	-	-	-	-	-	-									
	57	22	6.8	-	-	-	-	-	-	-									
3000	72	26	7.8	-	-	-	-	-	-	-									
	67	21	7.4	17	8	-	-	-	-	-									
	62	18	7.1	18	18	16	7	-	-	-									
	57	22	6.8	22	22	22	14	5	-	-									
3375	72	24	7.9	-	-	-	-	-	-	-									
	67	20	7.5	19	10	-	-	-	-	-									
	62	17	7.2	17	17	16	6	-	-	-									
	57	21	6.9	21	21	21	11	1	-	-									
3750	72	23	7.9	-	-	-	-	-	-	-									
	67	19	7.5	19	11	-	-	-	-	-									
	62	16	7.2	16	16	16	5	-	-	-									
	57	20	7.0	20	20	20	9	-	-	-									

* - These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.

† - These ratings include the condensate fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

\- No sensible cooling capacity.

TABLE 7: COOLING CAPACITY DR120 UNIT

Air On Evap. Coil		Temperature of Air on Condenser Coil 85°F									Temperature of Air on Condenser Coil 95°F								
CFM	WB (°F)	Total Cap.[1] (MBH)	Tot. Input[2] (kW)	Sensible Capacity (MBH) Return Dry Bulb (°F) 86	83	80	77	74	71	68	Total Cap.[1] (MBH)	Tot. Input[2] (kW)	Sensible Capacity (MBH) Return Dry Bulb (°F) 86	83	80	77	74	71	68
3000	72	134	8.6	80	72	63	54	46	37	29	126	9.4	76	67	59	50	42	33	24
	67	121	8.4	96	88	79	71	62	53	45	113	9.1	93	85	76	67	59	50	42
	62	110	8.3	110	105	97	88	79	71	62	103	8.9	103	101	92	84	75	66	58
	57	108	8.2	108	108	99	91	82	74	65	100	8.9	100	100	93	84	76	67	58
3500	72	139	8.7	89	79	68	58	48	38	28	130	9.4	84	74	63	53	43	33	23
	67	125	8.5	106	96	86	76	66	56	46	117	9.2	102	92	82	72	62	52	42
	62	114	8.3	114	112	105	95	85	75	65	106	8.9	106	105	100	89	79	69	59
	57	112	8.3	112	112	108	98	88	78	67	104	8.9	104	104	100	90	80	70	60
4000	72	144	8.8	97	86	74	62	51	39	27	135	9.5	91	80	68	56	45	33	22
	67	130	8.6	116	105	93	81	70	58	46	121	9.2	112	100	88	77	65	53	42
	62	119	8.4	119	119	113	102	90	78	67	110	9.0	110	110	107	95	84	72	60
	57	117	8.4	117	117	117	105	93	82	70	108	8.9	108	108	108	96	84	73	61
4500	72	147	8.8	105	92	78	65	52	39	25	137	9.6	99	86	73	59	46	33	20
	67	133	8.6	125	112	99	85	72	59	45	123	9.3	119	107	94	81	68	54	41
	62	121	8.4	121	121	118	105	92	79	65	112	9.0	112	112	110	97	84	70	57
	57	119	8.4	119	119	119	106	92	79	66	109	9.0	109	109	109	96	83	70	56
5000	72	150	8.9	113	98	83	68	53	38	23	139	9.6	107	92	77	62	47	32	18
	67	135	8.7	134	119	104	89	74	59	45	125	9.3	125	115	100	85	70	55	40
	62	123	8.5	123	123	123	109	94	79	64	113	9.1	113	113	113	98	84	69	54
	57	121	8.4	121	121	121	107	92	77	62	111	9.1	111	111	111	96	81	66	51
		Temperature of Air on Condenser Coil 105°F									Temperature of Air on Condenser Coil 115°F								
3000	72	117	10.0	73	64	55	47	38	30	21	108	10.6	69	61	52	44	35	27	18
	67	105	9.7	90	81	72	64	55	47	38	97	10.2	86	77	69	60	52	43	35
	62	94	9.4	94	93	85	77	68	60	51	86	9.9	86	86	78	70	61	53	44
	57	94	9.4	94	94	86	78	69	61	52	88	10.0	88	88	80	71	63	54	46
3500	72	121	10.1	80	70	60	50	40	30	19	111	10.7	77	67	56	46	36	26	16
	67	109	9.7	98	88	78	68	58	48	38	100	10.3	94	85	74	64	54	44	34
	62	97	9.5	97	97	92	82	72	62	52	88	10.0	88	88	85	74	64	54	44
	57	97	9.5	97	97	93	83	73	63	53	90	10.1	90	90	86	76	66	56	46
4000	72	124	10.1	88	76	64	53	41	29	18	114	10.8	84	72	61	49	37	26	14
	67	112	9.8	107	96	84	72	61	49	37	103	10.4	103	92	80	68	57	45	33
	62	100	9.5	100	100	99	87	76	64	52	91	10.1	91	91	91	79	67	56	44
	57	100	9.5	100	100	100	89	77	65	54	93	10.1	93	93	93	81	69	58	46
4500	72	126	10.2	95	82	69	55	42	29	16	115	10.9	91	78	65	51	38	25	12
	67	114	9.9	111	103	90	76	63	50	37	104	10.5	104	98	85	72	59	45	32
	62	102	9.6	102	102	101	88	74	61	48	92	10.1	92	92	92	79	65	52	39
	57	102	9.6	102	102	102	88	75	62	48	94	10.2	94	94	94	81	67	54	41
5000	72	128	10.3	103	88	73	58	43	28	13	117	10.9	98	84	69	54	39	24	9
	67	115	9.9	115	110	95	80	65	51	36	105	10.5	105	105	91	76	61	46	31
	62	103	9.7	103	103	103	88	73	58	44	93	10.2	93	93	93	78	63	48	33
	57	103	9.7	103	103	103	88	73	58	43	95	10.3	95	95	95	80	65	50	35
		Temperature of Air on Condenser Coil 125°F																	
3000	72	99	11.2	66	58	49	41	32	23	15									
	67	89	10.8	82	74	65	57	48	40	31									
	62	78	10.4	78	78	71	63	54	46	37									
	57	82	10.6	82	82	74	65	57	48	40									
3500	72	102	11.3	73	63	53	43	33	23	13									
	67	91	10.9	90	81	70	60	50	40	30									
	62	79	10.5	79	79	77	67	57	47	37									
	57	83	10.6	83	83	80	69	59	49	39									
4000	72	104	11.4	80	68	57	45	33	22	10									
	67	94	11.0	94	87	76	64	52	41	29									
	62	81	10.6	81	81	81	71	59	48	36									
	57	85	10.7	85	85	85	74	62	50	39									
4500	72	105	11.5	87	74	61	47	34	21	8									
	67	94	11.0	94	94	81	67	54	41	28									
	62	82	10.7	82	82	82	69	56	43	30									
	57	86	10.8	86	86	86	73	60	46	33									
5000	72	106	11.6	94	79	64	50	35	20	5									
	67	95	11.1	95	95	86	71	56	41	26									
	62	83	10.8	83	83	83	68	53	38	23									
	57	87	10.9	87	87	87	72	57	42	27									

1- These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.

2- These ratings include the condensate fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

\- -No sensible cooling capacity.

TABLE 8: COOLING CAPACITY DR120 UNIT (ALTERNATE REHEAT MODE)

Air On Evap. Coil		Temperature of Air on Condenser Coil 85°F									Temperature of Air on Condenser Coil 95°F								
CFM	WB (°F)	Total Cap.[1] (MBH)	Tot. Input[2] (kW)	Sensible Capacity (MBH) Return Dry Bulb (°F) 86	83	80	77	74	71	68	Total Cap.[1] (MBH)	Tot. Input[2] (kW)	Sensible Capacity (MBH) Return Dry Bulb (°F) 86	83	80	77	74	71	68
3000	72	56	8.8	9	1	-	-	-	-	-	48	9.1	18	9	1	-	-	-	-
	67	50	8.4	21	13	4	-	-	-	-	43	8.7	17	8	-	-	-	-	-
	62	43	8.0	32	24	15	6	-	-	-	38	8.3	16	8	-	-	-	-	-
	57	44	7.8	37	28	20	11	2	-	-	37	8.1	16	7	-	-	-	-	-
3500	72	56	8.8	8	-	-	-	-	-	-	49	9.1	10	-	-	-	-	-	-
	67	50	8.4	27	17	7	-	-	-	-	44	8.7	23	13	3	-	-	-	-
	62	43	8.0	38	33	24	14	4	-	-	39	8.3	28	24	16	6	-	-	-
	57	44	7.8	40	36	32	22	12	1	-	38	8.1	28	23	19	9	-	-	-
4000	72	56	8.8	6	-	-	-	-	-	-	51	9.1	3	-	-	-	-	-	-
	67	51	8.4	33	21	10	-	-	-	-	45	8.7	30	18	6	-	-	-	-
	62	43	8.0	43	43	34	22	10	-	-	40	8.3	40	40	33	21	9	-	-
	57	44	7.8	44	44	44	32	21	9	-	39	8.1	39	39	39	28	16	-	-
4500	72	58	8.8	1	-	-	-	-	-	-	52	9.2	-	-	-	-	-	-	-
	67	52	8.4	41	27	14	1	-	-	-	47	8.7	37	24	11	-	-	-	-
	62	45	8.0	45	45	40	27	14	-	-	41	8.3	41	41	38	24	11	-	-
	57	45	7.8	45	45	45	32	19	6	-	41	8.2	41	41	41	27	14	1	-
5000	72	60	8.8	-	-	-	-	-	-	-	54	9.2	-	-	-	-	-	-	-
	67	54	8.4	48	33	18	4	-	-	-	48	8.8	45	30	15	-	-	-	-
	62	46	8.0	46	46	46	31	17	2	-	43	8.4	43	43	43	28	13	-	-
	57	47	7.9	47	47	47	32	17	2	-	42	8.2	42	42	42	27	12	-	-
		Temperature of Air on Condenser Coil 105°F									Temperature of Air on Condenser Coil 115°F								
3000	72	41	9.5	-	-	-	-	-	-	-	33	9.9	-	-	-	-	-	-	-
	67	36	9.0	12	4	-	-	-	-	-	29	9.4	8	-	-	-	-	-	-
	62	31	8.6	20	16	12	3	-	-	-	24	9.0	24	24	24	16	7	-	-
	57	31	8.5	21	16	12	3	-	-	-	25	8.9	25	25	25	17	8	-	-
3500	72	43	9.5	-	-	-	-	-	-	-	36	9.9	-	-	-	-	-	-	-
	67	38	9.0	19	9	-	-	-	-	-	31	9.4	15	5	-	-	-	-	-
	62	33	8.6	27	25	20	10	-	-	-	26	9.0	26	26	24	14	4	-	-
	57	33	8.5	27	25	23	13	3	-	-	27	8.9	27	27	27	17	7	-	-
4000	72	45	9.5	-	-	-	-	-	-	-	39	9.9	-	-	-	-	-	-	-
	67	39	9.0	26	14	-	-	-	-	-	33	9.3	22	11	-	-	-	-	-
	62	34	8.6	34	34	29	17	5	-	-	28	8.9	28	28	24	13	1	-	-
	57	34	8.5	34	34	34	23	11	-	-	29	8.9	29	29	29	17	6	-	-
4500	72	46	9.5	4	-	-	-	-	-	-	40	9.9	17	11	5	-	-	-	-
	67	40	9.0	33	20	6	-	-	-	-	34	9.4	29	16	2	-	-	-	-
	62	35	8.6	-	-	-	-	-	-	-	29	9.0	-	-	-	-	-	-	-
	57	35	8.5	-	-	-	-	-	-	-	30	8.9	-	-	-	-	-	-	-
5000	72	47	9.6	11	3	-4	-19	-34	-	-	41	9.9	41	41	41	26	11	-	-
	67	42	9.1	40	25	10	-5	-19	-	-	35	9.4	35	20	5	-	-	-	-
	62	36	8.7	-35	-42	-50	-65	-80	-	-	29	9.0	-	-	-	-	-	-	-
	57	36	8.6	-49	-56	-64	-79	-94	-	-	31	8.9	-	-	-	-	-	-	-
		Temperature of Air on Condenser Coil 125°F																	
3000	72	26	10.3	-	-	-	-	-	-	-									
	67	21	9.7	3	-	-	-	-	-	-									
	62	17	9.3	17	17	17	17	17	11	2									
	57	19	9.3	19	19	19	19	19	12	4									
3500	72	29	10.2	-	-	-	-	-	-	-									
	67	24	9.7	11	1	-	-	-	-	-									
	62	19	9.3	19	19	19	18	8	-	-									
	57	22	9.3	22	22	22	21	11	1	-									
4000	72	33	10.2	-	-	-	-	-	-	-									
	67	27	9.7	19	7	-	-	-	-	-									
	62	22	9.3	22	22	20	9	-	-	-									
	57	24	9.2	24	24	24	12	1	-	-									
4500	72	33	10.2	29	27	25	12	-	-	-									
	67	28	9.7	24	11	-	-	-	-	-									
	62	22	9.3	-	-	-	-	-	-	-									
	57	25	9.3	-	-	-	-	-	-	-									
5000	72	34	10.3	34	34	34	34	34	-	-									
	67	28	9.7	28	15	1	-	-	-	-									
	62	23	9.3	-190	-	-	-	-	-	-									
	57	25	9.3	-	-	-	-	-	-	-									

1 - These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.

2 - These ratings include the condensate fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

\- -No sensible cooling capacity.

TABLE 9: COOLING CAPACITY DR150 UNIT

Air On Evap. Coil		Temperature of Air on Condenser Coil 85°F									Temperature of Air on Condenser Coil 95°F								
CFM	WB (°F)	Total Cap.[1] (MBH)	Tot. Input[2] (kW)	Sensible Capacity (MBH) Return Dry Bulb (°F) 86	83	80	77	74	71	68	Total Cap.[1] (MBH)	Tot. Input[2] (kW)	Sensible Capacity (MBH) Return Dry Bulb (°F) 86	83	80	77	74	71	68
3750	72	174	10.9	98	87	77	66	55	45	34	168	11.9	97	86	75	65	54	43	32
	67	160	10.7	126	115	104	94	83	72	62	153	11.7	122	112	101	90	80	69	58
	62	147	10.5	147	137	127	116	105	94	84	141	11.4	141	134	124	113	102	92	81
	57	143	10.7	143	138	127	116	106	95	84	136	11.6	136	131	120	110	99	88	78
4375	72	179	10.9	109	96	83	71	58	46	33	171	12.0	107	95	82	69	57	44	32
	67	164	10.7	139	126	114	101	89	76	63	156	11.7	135	123	110	98	85	72	60
	62	151	10.6	151	146	138	125	113	100	87	144	11.5	144	141	135	122	110	97	84
	57	146	10.7	146	144	138	126	113	100	88	139	11.7	139	137	131	119	106	93	81
5000	72	183	11.0	120	105	90	76	61	47	32	175	12.0	118	103	89	74	60	45	31
	67	168	10.7	152	138	123	109	94	79	65	160	11.8	149	134	119	105	90	76	61
	62	155	10.6	155	155	149	135	120	106	91	147	11.6	147	147	146	132	117	102	88
	57	150	10.7	150	150	150	135	121	106	91	142	11.8	142	142	142	128	113	98	84
5625	72	185	11.0	128	111	94	78	61	45	28	177	12.0	126	110	93	77	60	43	27
	67	170	10.8	162	145	129	112	96	79	62	162	11.8	156	142	125	109	92	75	59
	62	156	10.7	156	156	154	137	120	104	87	149	11.6	149	149	148	132	115	99	82
	57	151	10.8	151	151	151	135	118	102	85	144	11.8	144	144	144	127	111	94	77
6250	72	187	11.1	136	117	99	80	61	43	24	179	12.0	135	116	98	79	60	42	23
	67	172	10.8	172	153	134	116	97	79	60	164	11.8	164	150	131	113	94	75	57
	62	158	10.7	158	158	158	139	121	102	84	151	11.6	151	151	151	132	113	95	76
	57	153	10.8	153	153	153	134	116	97	79	146	11.8	146	146	146	127	108	90	71
		Temperature of Air on Condenser Coil 105°F									Temperature of Air on Condenser Coil 115°F								
3750	72	159	13.2	94	83	72	62	51	40	29	150	14.5	91	80	69	58	48	37	26
	67	144	13.0	119	108	98	87	76	66	55	136	14.3	116	105	95	84	73	62	52
	62	133	12.8	133	128	117	106	96	85	74	125	14.1	125	121	110	99	89	78	67
	57	128	12.9	128	123	113	102	91	81	70	120	14.1	120	116	105	95	84	73	62
4375	72	162	13.2	104	91	79	66	54	41	28	152	14.5	101	88	75	63	50	38	25
	67	147	13.1	132	119	107	94	81	69	56	138	14.4	128	116	103	91	78	65	53
	62	136	12.8	136	133	128	115	102	90	77	128	14.1	128	126	120	108	95	82	70
	57	131	12.9	131	128	123	110	98	85	72	122	14.2	122	120	115	102	90	77	64
5000	72	165	13.3	114	100	85	71	56	42	27	155	14.6	111	96	82	67	53	38	23
	67	150	13.1	145	130	116	101	86	72	57	141	14.4	141	126	112	97	83	68	53
	62	139	12.9	139	139	138	124	109	94	80	130	14.2	130	130	130	116	101	86	72
	57	133	13.0	133	133	133	119	104	90	75	124	14.2	124	124	124	110	95	81	66
5625	72	167	13.3	123	106	90	73	57	40	23	157	14.6	120	103	87	70	53	37	20
	67	152	13.1	149	138	122	105	89	72	55	143	14.4	143	135	118	102	85	68	52
	62	140	12.9	140	140	140	123	107	90	74	132	14.2	132	132	132	115	99	82	65
	57	135	13.0	135	135	135	118	102	85	69	126	14.2	126	126	126	109	93	76	60
6250	72	169	13.3	132	113	94	76	57	39	20	159	14.5	128	110	91	73	54	35	17
	67	154	13.1	154	147	128	109	91	72	53	144	14.4	144	143	125	106	87	69	50
	62	142	12.9	142	142	142	123	105	86	68	133	14.2	133	133	133	115	96	78	59
	57	137	13.0	137	137	137	118	99	81	62	128	14.2	128	128	128	109	90	72	53
		Temperature of Air on Condenser Coil 125°F																	
3750	72	141	15.7	88	77	66	55	45	34	23									
	67	127	15.6	113	102	91	81	70	59	49									
	62	118	15.4	118	114	103	93	82	71	61									
	57	112	15.4	112	108	98	87	76	66	55									
4375	72	143	15.8	97	85	72	60	47	34	22									
	67	129	15.7	125	112	100	87	74	62	49									
	62	120	15.4	120	118	113	100	88	75	62									
	57	114	15.4	114	112	107	94	81	69	56									
5000	72	145	15.8	107	93	78	64	49	34	20									
	67	132	15.7	132	123	108	93	79	64	50									
	62	122	15.5	122	122	122	108	93	79	64									
	57	116	15.4	116	116	116	101	86	72	57									
5625	72	147	15.8	116	100	83	67	50	33	17									
	67	133	15.7	133	131	115	98	81	65	48									
	62	123	15.5	123	123	123	107	90	74	57									
	57	117	15.4	117	117	117	100	84	67	51									
6250	72	149	15.8	125	107	88	69	51	32	13									
	67	135	15.7	135	135	121	103	84	66	47									
	62	125	15.5	125	125	125	106	88	69	50									
	57	118	15.4	118	118	118	100	81	63	44									

1- These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.

2- These ratings include the condensate fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

\- -No sensible cooling capacity.

TABLE 10: COOLING CAPACITY DR150 UNIT (ALTERNATE REHEAT MODE)

Air On Evap. Coil		Temperature of Air on Condenser Coil 85°F									Temperature of Air on Condenser Coil 95°F								
CFM	WB (°F)	Total Cap.[1] (MBH)	Tot. Input[2] (kW)	Sensible Capacity (MBH) Return Dry Bulb (°F) 86	83	80	77	74	71	68	Total Cap.[1] (MBH)	Tot. Input[2] (kW)	Sensible Capacity (MBH) Return Dry Bulb (°F) 86	83	80	77	74	71	68
3750	72	70	10.7	14	4	-	-	-	-	-	67	10.8	11	-	-	-	-	-	-
	67	63	10.2	28	17	6	-	-	-	-	60	10.3	27	17	6	-	-	-	-
	62	57	9.7	42	31	21	10	-	-	-	53	9.9	44	34	23	12	1	-	-
	57	52	9.8	43	33	22	11	-	-	-	49	10.1	47	36	25	15	4	-	-
4375	72	74	10.5	11	-	-	-	-	-	-	70	10.8	7	-	-	-	-	-	-
	67	66	10.0	38	25	13	-	-	-	-	61	10.3	35	23	10	-	-	-	-
	62	60	9.5	52	47	41	29	16	4	-	54	10.0	50	45	39	27	14	1	-
	57	55	9.6	50	45	44	31	19	6	-	51	10.1	49	44	44	31	18	6	-
5000	72	77	10.3	8	-	-	-	-	-	-	72	10.8	4	-	-	-	-	-	-
	67	69	9.8	48	33	19	4	-	-	-	63	10.3	43	29	14	-	-	-	-
	62	62	9.3	62	62	62	48	33	19	4	56	10.0	56	56	56	41	27	12	-
	57	58	9.4	58	58	66	52	37	22	8	52	10.1	52	52	62	47	33	18	-
5625	72	78	10.4	8	-	-	-	-	-	-	73	10.8	-	-	-	-	-	-	-
	67	70	9.9	55	39	22	5	-	-	-	65	10.3	52	36	19	2	-	-	-
	62	63	9.5	63	63	63	46	30	13	-	57	10.0	57	57	57	41	24	7	-
	57	58	9.6	58	58	63	46	29	13	-	53	10.1	53	53	58	42	25	8	-
6250	72	79	10.6	8	-	-	-	-	-	-	75	10.8	-	-	-	-	-	-	-
	67	71	10.1	62	44	25	7	-	-	-	66	10.3	61	42	24	5	-	-	-
	62	64	9.6	64	64	64	45	27	8	-	59	10.0	59	59	59	40	21	3	-
	57	59	9.7	59	59	59	40	22	3	-	54	10.2	54	54	54	36	17	-	-
		Temperature of Air on Condenser Coil 105°F									Temperature of Air on Condenser Coil 115°F								
3750	72	64	11.8	35	28	17	7	-	-	-	60	12.7	60	56	45	34	24	13	2
	67	54	11.4	23	12	2	-	-	-	-	49	12.6	19	8	-	-	-	-	-
	62	50	11.1	5	-	-	-	-	-	-	48	12.3	-	-	-	-	-	-	-
	57	46	11.2	3	-	-	-	-	-	-	43	12.4	-	-	-	-	-	-	-
4375	72	64	11.8	17	6	-	-	-	-	-	58	12.7	27	17	5	-	-	-	-
	67	54	11.4	30	18	5	-	-	-	-	47	12.5	25	12	-	-	-	-	-
	62	50	11.1	28	22	17	4	-	-	-	46	12.3	5	-	-	-	-	-	-
	57	46	11.2	24	19	19	6	-	-	-	42	12.3	-	-	-	-	-	-	-
5000	72	64	11.8	-	-	-	-	-	-	-	55	12.7	-	-	-	-	-	-	-
	67	54	11.4	37	23	8	-	-	-	-	45	12.5	31	17	2	-	-	-	-
	62	50	11.1	50	50	50	35	21	6	-	44	12.3	44	44	44	30	15	-	-
	57	46	11.2	46	46	56	41	27	12	-	40	12.3	40	40	50	36	21	6	-
5625	72	66	11.8	-	-	-	-	-	-	-	59	12.7	-	-	-	-	-	-	-
	67	56	11.4	47	30	13	-	-	-	-	48	12.5	41	25	8	-	-	-	-
	62	52	11.1	52	52	52	36	19	3	-	48	12.3	48	48	48	31	14	-	-
	57	48	11.2	48	48	53	37	20	3	-	43	12.3	43	43	48	31	15	-	-
6250	72	69	11.8	-	-	-	-	-	-	-	64	12.7	-	-	-	-	-	-	-
	67	59	11.4	56	37	19	-	-	-	-	51	12.5	51	32	14	-	-	-	-
	62	55	11.1	55	55	55	36	17	-	-	51	12.3	51	51	51	32	14	-	-
	57	50	11.3	50	50	50	32	13	-	-	46	12.4	46	46	46	27	9	-	-
		Temperature of Air on Condenser Coil 125°F																	
3750	72	56	13.7	56	56	56	56	51	41	30									
	67	43	13.7	15	4	-	-	-	-	-									
	62	46	13.5	-	-	-	-	-	-	-									
	57	41	13.5	-	-	-	-	-	-	-									
4375	72	52	13.7	36	28	16	3	-	-	-									
	67	39	13.6	20	7	-	-	-	-	-									
	62	42	13.5	-	-	-	-	-	-	-									
	57	37	13.5	-	-	-	-	-	-	-									
5000	72	47	13.6	-	-	-	-	-	-	-									
	67	35	13.6	25	10	-	-	-	-	-									
	62	38	13.4	38	38	38	24	9	-	-									
	57	34	13.4	34	34	34	30	15	-	-									
5625	72	53	13.6	-	-	-	-	-	-	-									
	67	40	13.6	36	19	2	-	-	-	-									
	62	43	13.4	43	43	43	26	9	-	-									
	57	38	13.4	38	38	38	26	10	-	-									
6250	72	58	13.6	-	-	-	-	-	-	-									
	67	44	13.6	44	28	-	-	-	-	-									
	62	47	13.4	47	47	47	28	10	-	-									
	57	42	13.5	42	42	42	23	5	-	-									

1 - These capacities are gross ratings. For net capacity, deduct air blower motor, MBh = 3.415 x kW. Refer to the appropriate Blower Performance Table for the kW of the supply air blower motor.

2 - These ratings include the condensate fan motors (total 1 kW) and the compressor motors but not the supply air blower motor.

- -No sensible cooling capacity.

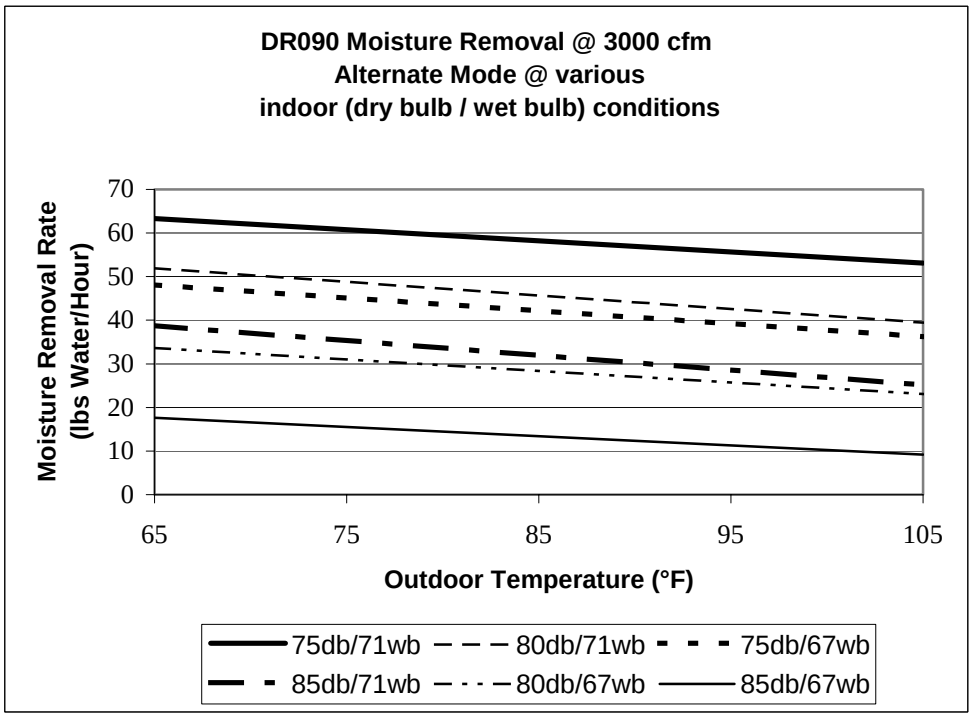


FIGURE 6 - DR090 MOISTURE REMOVAL - ALTERNATE MODE

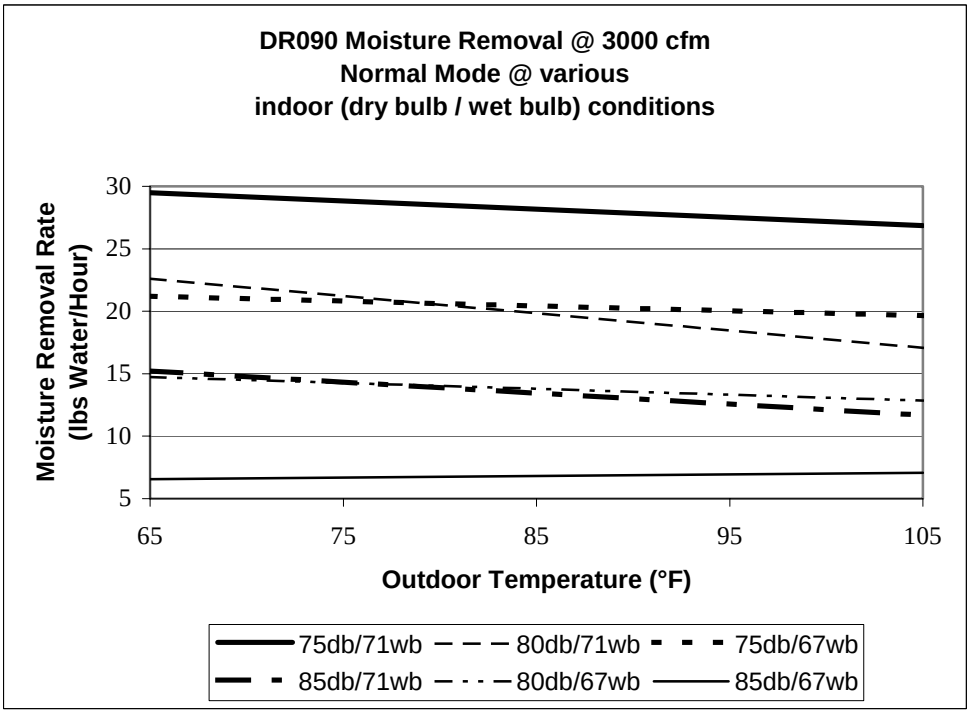


FIGURE 7 - DR090 MOISTURE REMOVAL - NORMAL MODE

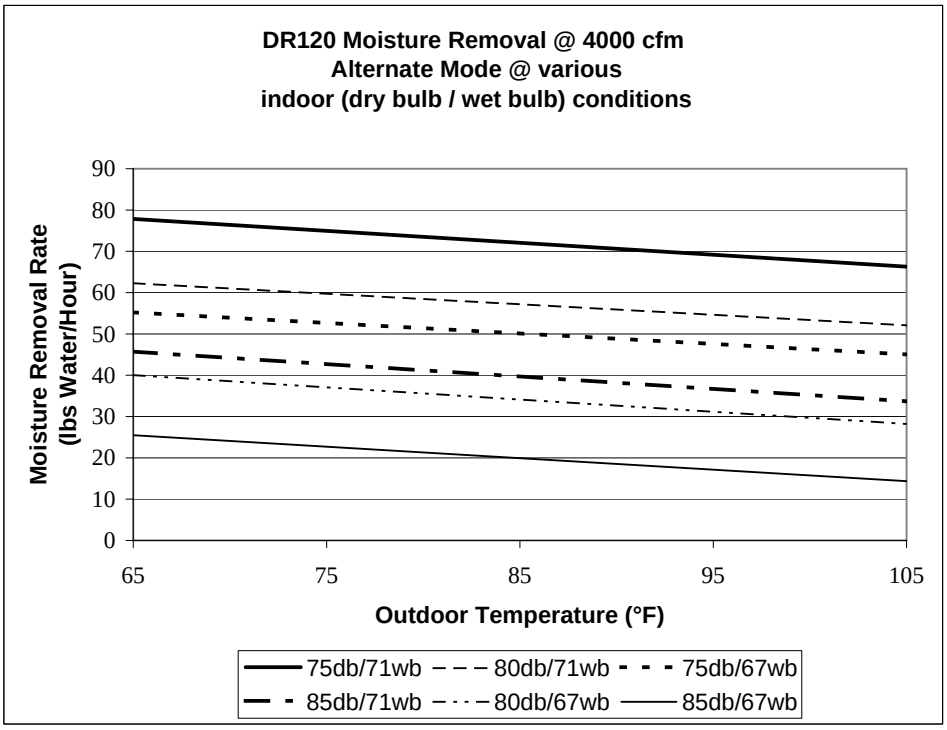


FIGURE 8 - DR120 MOISTURE REMOVAL - ALTERNATE MODE

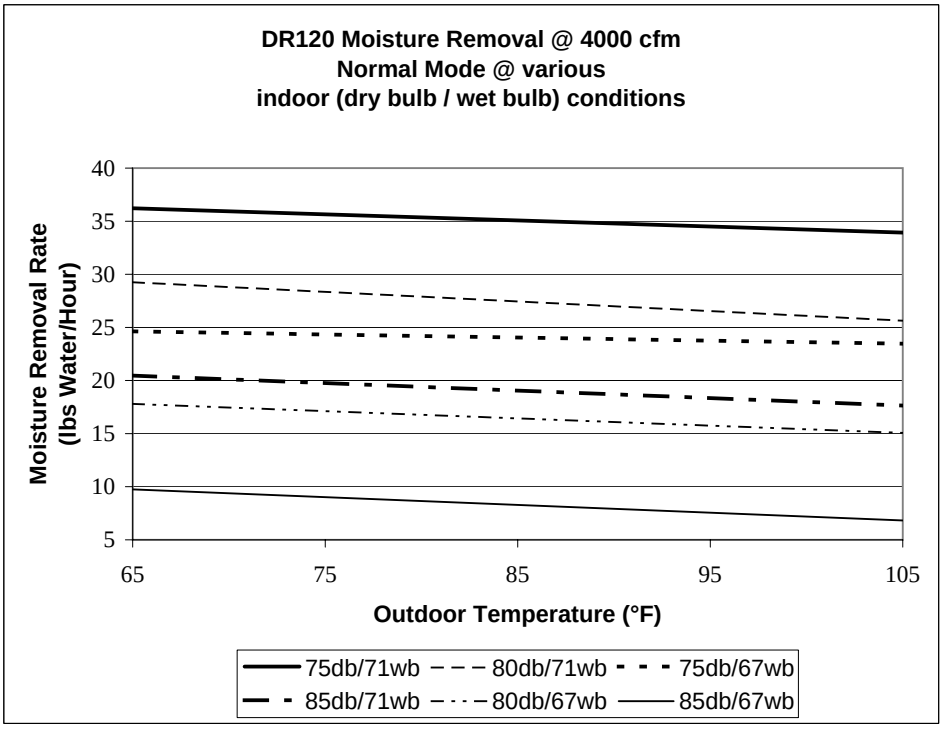


FIGURE 9 - DR120 MOISTURE REMOVAL - NORMAL MODE

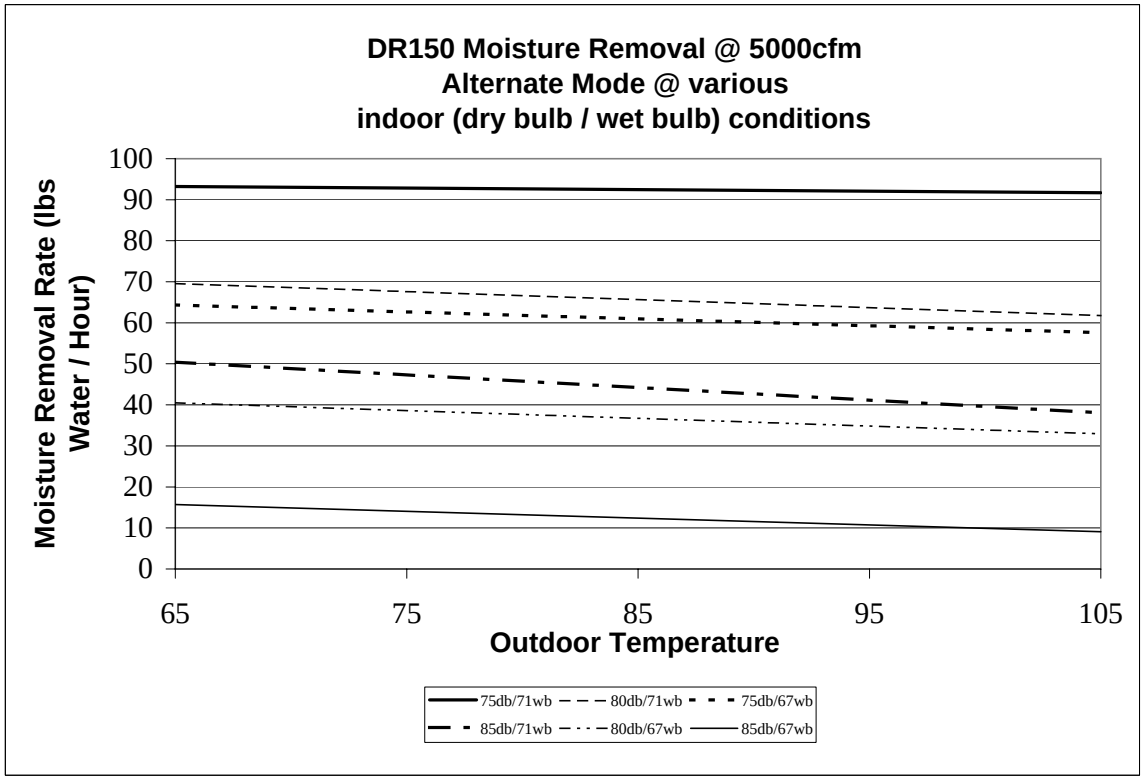


FIGURE 10 - DR150 MOISTURE REMOVAL - ALTERNATE MODE

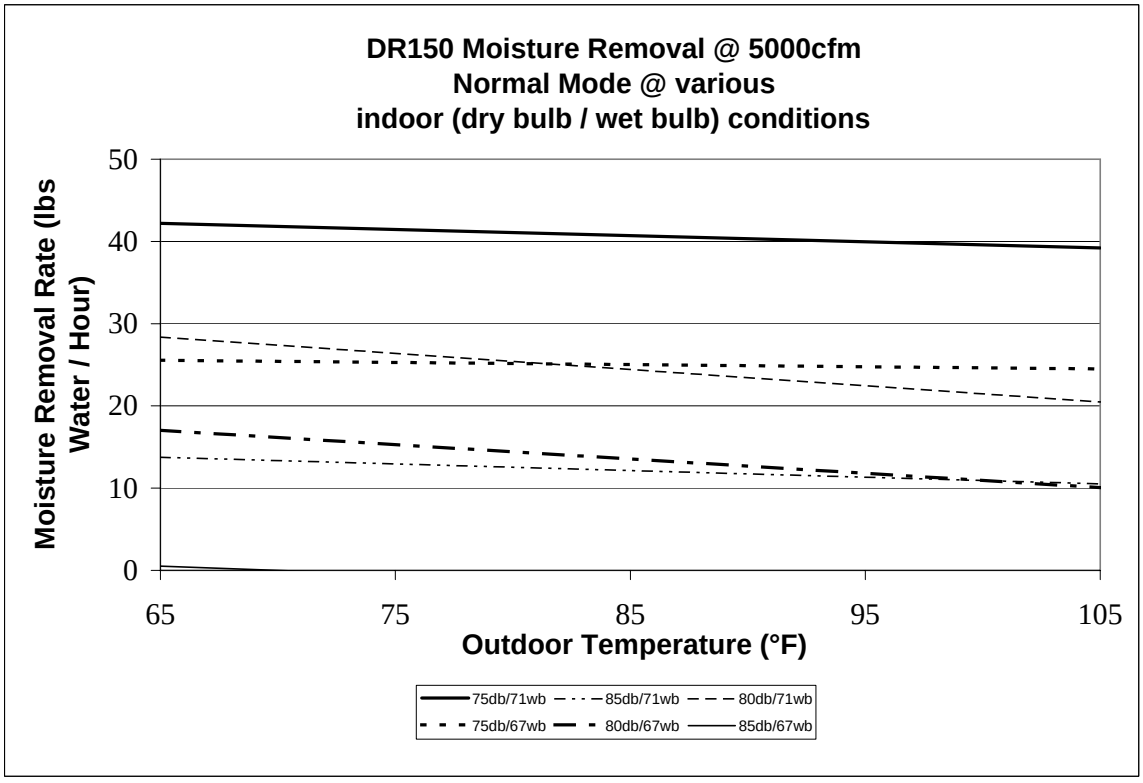


FIGURE 11 - DR150 MOISTURE REMOVAL - NORMAL MODE

TABLE 11: ELECTRICAL DATA DR090 W/O PWRD CONVENIENCE OUTLET

Voltage	Compressors		OD Fan Motors	Supply Blower Motor FLA		Pwr Exh Motor	Pwr Conv Outlet	Electric Heater Model No.	Actual KW	Heater Amps	Min. Circuit Ampacity (Amps)		MCA w/Power Exhaust (Amps)		Max Fuse* Size (Amps)		Max Fuse* Size w/Power Exhaust (Amps)	
	RLA	LRA	FLA	1.5	2	FLA	FLA				1.5	2	1.5	2	1.5	2	1.5	2
	ea.	ea.	ea.	HP	HP						HP	HP	HP	HP	HP	HP	HP	HP
208	13.1	110.0	1.5	6.2	8.2	5.5	0.0	None	--	--	38.7	40.7	44.2	46.2	50	50	50	50
								2TP04520925	6.8	18.9	38.7	40.7	44.2	46.2	50	50	50	50
								2TP04521825	13.5	37.5	54.6	57.1	61.5	64.0	60	60	70	70
								2TP04522425	18.0	50.0	70.2	72.7	77.1	79.6	80	80	80	80
								2TP04523625	25.5	70.8	96.2	98.7	103.1	105.6	100	100	110	110
230	13.1	110.0	1.5	6.2	8.2	5.5	0.0	None	--	--	38.7	40.7	44.2	46.2	50	50	50	50
								2TP04520925	9.0	21.7	38.7	40.7	44.2	46.2	50	50	50	50
								2TP04521825	18.0	43.3	61.9	64.4	68.8	71.3	70	70	70	80
								2TP04522425	24.0	57.7	79.9	82.4	86.8	89.3	80	90	90	90
								2TP04523625	34.0	81.8	110.0	112.5	116.9	119.4	110	125	125	125
460	6.7	54.0	0.8	3.1	4.1	2.2	0.0	None	--	--	19.8	20.8	22	23	25	25	25	25
								2TP04520946	9	11.3	19.8	20.8	22	23	25	25	25	25
								2TP04521846	18	22.6	30.9	32.2	33.7	34.9	35	35	35	35
								2TP04522446	24	30.1	40	41.2	42.7	44	40	45	45	45
								2TP04523646	34	42.7	55	56.2	57.7	59	60	60	60	60
575	5.1	44.0	0.6	2.4	3.6	1.8	0.0	None	--	--	15.1	16.3	16.9	18.1	20	20	20	20
								2TP04520958	9	9.0	15.1	16.3	16.9	18.1	20	20	20	20
								2TP04521858	18	18.1	24.7	26.2	26.9	28.4	25	30	30	30
								2TP04522458	24	24.1	31.9	33.4	34.1	35.6	35	35	35	40
								2TP04523658	34	34.1	43.9	45.4	46.1	47.6	45	50	50	50

* Maximum HACR breaker of the same AMP size is applicable.

TABLE 12: ELECTRICAL DATA DR090 WITH PWRD CONVENIENCE OUTLET

Voltage	Compressors		OD Fan Motors	Supply Blower Motor FLA		Pwr Exh Motor	Pwr Conv Outlet	Electric Heater Model No.	Actual KW	Heater Amps	Min. Circuit Ampacity (Amps)		MCA w/Power Exhaust (Amps)		Max Fuse* Size (Amps)		Max Fuse Size w/Power Exhaust (Amps)	
	RLA	LRA	FLA	1.5	2	FLA	FLA				1.5	2	1.5	2	1.5	2	1.5	2
	ea.	ea.	ea.	HP	HP						HP	HP	HP	HP	HP	HP	HP	HP
208	13.1	110.0	1.5	6.2	8.2	5.5	10.0	None	--	--	48.7	50.7	54.2	56.2	60	60	60	60
								2TP04520925	6.8	18.9	48.7	50.7	54.2	56.2	60	60	60	60
								2TP04521825	13.5	37.5	67.1	69.6	74.0	76.5	70	70	80	80
								2TP04522425	18.0	50.0	82.7	85.2	89.6	92.1	90	90	90	100
								2TP04523625	25.5	70.8	108.7	111.2	115.6	118.1	110	125	125	125
230	13.1	110.0	1.5	6.2	8.2	5.5	10.0	None	--	--	48.7	50.7	54.2	56.2	60	60	60	60
								2TP04520925	9.0	21.7	48.7	50.7	54.2	56.7	60	60	60	60
								2TP04521825	18.0	43.3	74.4	76.9	81.3	83.8	80	80	90	90
								2TP04522425	24.0	57.7	92.4	94.9	99.3	101.8	100	100	100	110
								2TP04523625	34.0	81.8	122.5	125.0	129.4	131.9	125	125	150	150
460	6.7	54.0	0.8	3.1	4.1	2.2	5.0	None	--	--	24.8	25.8	27	28	30	30	30	30
								2TP04520946	9	11.3	24.8	25.8	27	28	30	30	30	30
								2TP04521846	18	22.6	37.2	38.4	39.9	41.2	40	40	40	45
								2TP04522446	24	30.1	46.2	47.5	49	50.2	50	50	50	60
								2TP04523646	34	42.7	61.2	62.5	64	65.2	70	70	70	70
575	5.1	44.0	0.6	2.4	3.6	1.8	4.0	None	--	--	19.1	20.3	20.9	22.1	20	25	25	25
								2TP04520958	9	9.0	19.1	20.3	21.1	22.6	20	25	25	25
								2TP04521858	18	18.1	29.7	31.2	31.9	33.4	30	35	35	35
								2TP04522458	24	24.1	36.9	38.4	39.1	40.6	40	40	40	45
								2TP04523658	34	34.1	48.9	50.4	51.1	52.6	50	60	60	60

* Maximum HACR breaker of the same AMP size is applicable.

TABLE 13: ELECTRICAL DATA DR120 W/O PWRD CONVENIENCE OUTLET

Voltage	Compressors		OD Fan Motors	Supply Blower Motor FLA		Pwr Exh Motor	Pwr Conv Outlet	Electric Heater Model No.	Actual KW	Heater Amps	Min. Circuit Ampacity (Amps)		MCA w/Power Exhaust (Amps)		Max Fuse* Size (Amps)		Max Fuse Size w/Power Exhaust (Amps)	
	RLA	LRA	FLA	2	3	FLA	FLA				2	3	2	3	2	3	2	3
	ea.	ea.	ea.	HP	HP						HP	HP	HP	HP	HP	HP	HP	HP
208	16.0	137.0	3.5	8.2	10.9	5.5	0.0	None	--	--	51.2	53.9	56.7	59.4	60	60	70	70
								2TP04521825	13.5	37.5	57.1	60.5	64.0	67.3	60	70	70	70
								2TP04522425	18.0	50.0	72.7	76.1	79.6	83.0	80	80	80	90
								2TP04523625	25.5	70.8	98.7	102.1	105.6	109.0	100	110	110	110
								2TP04525425	40.6	112.7	151.1	154.5	158.0	161.4	175	175	175	175
230	16.0	137.0	3.5	8.2	10.9	5.5	0.0	None	--	--	51.2	53.9	56.7	59.4	60	60	70	70
								2TP04521825	18.0	43.3	64.4	67.8	71.3	74.6	70	70	80	80
								2TP04522425	24.0	57.7	82.4	85.8	89.3	92.7	90	90	90	100
								2TP04523625	34.0	81.8	112.5	115.9	119.4	122.7	125	125	125	125
								2TP04525425	54.0	129.9	140.2	143.5	147.0	150.4	150	175	175	175
460	8.3	69.0	1.6	4.1	5.3	2.2	0.0	None	--	--	26	27.2	28.2	29.4	30	35	35	35
								2TP04521846	18	22.6	32.2	33.7	34.9	36.4	35	35	35	40
								2TP04522446	24	30.1	41.2	42.7	44	45.5	45	45	45	50
								2TP04523646	34	42.7	56.2	57.7	59	60.5	60	60	60	70
								2TP04525446	54	67.8	70.1	71.6	72.8	74.3	80	80	80	80
575	6.4	58.0	1.3	3.6	4.1	1.8	0.0	None	--	--	20.6	21.1	22.4	22.9	25	25	25	25
								2TP04521858	18	18.1	26.2	26.8	28.4	29	30	30	30	30
								2TP04522458	24	24.1	33.4	34	35.6	36.2	35	35	40	40
								2TP04523658	34	34.1	45.4	46	47.6	48.3	50	50	50	50
								2TP04525458	54	54.2	56.5	57.1	58.7	59.3	70	70	70	70

* Maximum HACR breaker of the same AMP size is applicable.

TABLE 14: ELECTRICAL DATA DR120 WITH PWRD CONVENIENCE OUTLET

Voltage	Compressors		OD Fan Motors	Supply Blower Motor FLA		Pwr Exh Motor	Pwr Conv Outlet	Electric Heater Model No.	Actual KW	Heater Amps	Min. Circuit Ampacity (Amps)		MCA w/Power Exhaust (Amps)		Max Fuse* Size (Amps)		Max Fuse Size w/Power Exhaust (Amps)	
	RLA	LRA	FLA	2	3	FLA	FLA				2	3	2	3	2	3	2	3
	ea.	ea.	ea.	HP	HP						HP	HP	HP	HP	HP	HP	HP	HP
208	16.0	137.0	3.5	8.2	10.9	5.5	10.0	None	--	--	61.2	63.9	66.7	69.4	70	70	80	80
								2TP04521825	13.5	37.5	69.6	73.0	76.5	79.8	70	80	80	80
								2TP04522425	18.0	50.0	85.2	88.6	92.1	95.5	90	90	100	100
								2TP04523625	25.5	70.8	111.2	114.6	118.1	121.5	125	125	125	125
								2TP04525425	40.6	112.7	163.6	167.0	170.5	173.9	175	175	175	175
230	16.0	137.0	3.5	8.2	10.9	5.5	10.0	None	--	--	61.2	63.9	66.7	69.4	70	70	80	80
								2TP04521825	18.0	43.3	76.9	80.3	83.8	87.1	80	90	90	90
								2TP04522425	24.0	57.7	94.9	98.3	101.8	105.2	100	100	110	110
								2TP04523625	34.0	81.8	125.0	128.4	131.9	135.2	125	150	150	150
								2TP04525425	54.0	129.9	152.7	156.0	159.5	162.9	175	175	175	175
460	8.3	69.0	1.6	4.1	5.3	2.2	5.0	None	--	--	31	32.2	33.2	34.4	35	40	40	40
								2TP04521846	18	22.6	38.4	39.9	41.2	42.7	40	40	45	45
								2TP04522446	24	30.1	47.5	49	50.2	51.7	50	50	60	60
								2TP04523646	34	42.7	62.5	64	65.2	66.7	70	70	70	70
								2TP04525446	54	67.8	76.3	77.8	79.1	80.6	90	90	90	90
575	6.4	58.0	1.3	3.6	4.1	1.8	4.0	None	--	--	24.6	25.1	26.4	26.9	30	30	30	30
								2TP04521858	18	18.1	31.2	31.8	33.4	34	35	35	35	35
								2TP04522458	24	24.1	38.4	39	40.6	41.2	40	40	45	45
								2TP04523658	34	34.1	50.4	51	52.6	53.3	60	60	60	60
								2TP04525458	54	54.2	61.5	62.1	63.7	64.3	70	70	70	70

* Maximum HACR breaker of the same AMP size is applicable.

TABLE 15: ELECTRICAL DATA DR150 W/O PWRD CONVENIENCE OUTLET

Voltage	Compressors		OD Fan Motors	Supply Blower Motor FLA		Pwr Exh Motor	Pwr Conv Outlet	Electric Heater Model No.	Actual KW	Heater Amps	Min. Circuit Ampacity (Amps)		MCA w/Power Exhaust (Amps)		Max Fuse* Size (Amps)		Max Fuse Size w/Power Exhaust (Amps)	
	RLA	LRA	FLA	3	5	FLA	FLA				3	5	3	5	3	5	3	5
	ea.	ea.	ea.	HP	HP						HP	HP	HP	HP	HP	HP	HP	HP
208	20.0	146.0	1.5	10.9	16.1	5.5	0.0	None	--	--	61.9	67.1	67.4	72.6	80	80	80	90
								2TP04521825	13.5	37.5	61.9	67.1	67.4	73.8	80	80	80	90
								2TP04522425	18.0	50.0	76.1	82.6	83.0	89.5	80	90	90	90
								2TP04523625	25.5	70.8	102.1	108.6	109.0	115.5	110	110	110	125
								2TP04525425	40.6	112.7	154.5	161.0	161.4	167.9	175	175	175	175
230	20.0	146.0	1.5	10.9	16.1	5.5	0.0	None	--	--	61.9	67.1	67.4	72.6	80	80	80	90
								2TP04521825	18.0	43.3	67.8	74.3	74.6	81.1	80	80	80	90
								2TP04522425	24.0	57.7	85.8	92.3	92.7	99.2	90	100	100	100
								2TP04523625	34.0	81.8	115.9	122.4	122.7	129.2	125	125	125	150
								2TP04525425	54.0	129.9	143.5	150.0	150.4	156.9	175	175	175	175
460	8.4	73.0	0.8	5.3	8.1	2.2	0.0	None	--	--	27.4	30.2	29.6	32.4	35	35	35	40
								2TP04521846	18	22.6	33.7	37.2	36.4	39.9	35	40	40	40
								2TP04522446	24	30.1	42.7	46.2	45.5	49	45	50	50	50
								2TP04523646	34	42.7	57.7	61.2	60.5	64	60	70	70	70
								2TP04525446	54	67.8	71.6	75.1	74.3	77.8	80	90	80	90
575	7.1	60.0	0.6	4.1	6.0	1.8	0.0	None	--	--	22.5	24.4	24.3	26.2	25	30	30	30
								2TP04521858	18	18.1	26.8	29.2	29	31.4	30	30	30	35
								2TP04522458	24	24.1	34	36.4	36.2	38.6	35	40	40	40
								2TP04523658	34	34.1	46	48.4	48.3	50.6	50	50	50	60
								2TP04525458	54	54.2	57.1	59.5	59.3	61.7	70	70	70	70

* Maximum HACR breaker of the same AMP size is applicable.

TABLE 16: ELECTRICAL DATA DR150 W/PWRD CONVENIENCE OUTLET

Voltage	Compressors		OD Fan Motors	Supply Blower Motor FLA		Pwr Exh Motor	Pwr Conv Outlet	Electric Heater Model No.	Actual KW	Heater Amps	Min. Circuit Ampacity (Amps)		MCA w/Power Exhaust (Amps)		Max Fuse* Size (Amps)		Max Fuse Size w/Power Exhaust (Amps)	
	RLA	LRA	FLA	3	5	FLA	FLA				3	5	3	5	3	5	3	5
	ea.	ea.	ea.	HP	HP						HP	HP	HP	HP	HP	HP	HP	HP
208	20.0	146.0	1.5	10.9	16.1	5.5	10.0	None	--	--	71.9	77.1	77.4	82.6	90	90	90	100
								2TP04521825	13.5	37.5	73.0	79.5	79.8	86.3	90	90	90	100
								2TP04522425	18.0	50.0	88.6	95.1	95.5	102.0	90	100	100	110
								2TP04523625	25.5	70.8	114.6	121.1	121.5	128.0	125	125	125	150
								2TP04525425	40.6	112.7	167.0	173.5	173.9	180.4	175	175	175	200
230	20.0	146.0	1.5	10.9	16.1	5.5	10.0	None	--	--	71.9	77.1	77.4	82.6	90	90	90	100
								2TP04521825	18.0	43.3	80.3	86.8	87.1	93.6	90	90	90	100
								2TP04522425	24.0	57.7	98.3	104.8	105.2	111.7	100	110	110	125
								2TP04523625	34.0	81.8	128.4	134.9	135.2	141.7	150	150	150	150
								2TP04525425	54.0	129.9	156.0	162.5	162.9	169.4	175	175	175	175
460	8.4	73.0	0.8	5.3	8.1	2.2	5.0	None	--	--	32.4	35.2	34.6	37.4	40	40	40	45
								2TP04521846	18	22.6	39.9	43.4	42.7	46.2	40	45	45	50
								2TP04522446	24	30.1	49	52.5	51.7	55.2	50	60	60	60
								2TP04523646	34	42.7	64	67.5	66.7	70.2	70	70	70	80
								2TP04525446	54	67.8	77.8	81.3	80.6	84.1	90	90	90	90
575	7.1	60.0	0.6	4.1	6.0	1.8	4.0	None	--	--	26.5	28.4	28.3	30.2	30	35	35	35
								2TP04521858	18	18.1	31.8	34.2	34	36.4	35	35	35	40
								2TP04522458	24	24.1	39	41.4	41.2	43.6	40	45	45	45
								2TP04523658	34	34.1	51	53.4	53.3	55.6	60	60	60	60
								2TP04525458	54	54.2	62.1	64.5	64.3	66.7	70	70	70	70

* Maximum HACR breaker of the same AMP size is applicable.

TABLE 17: ELECTRIC HEAT MULTIPLIERS

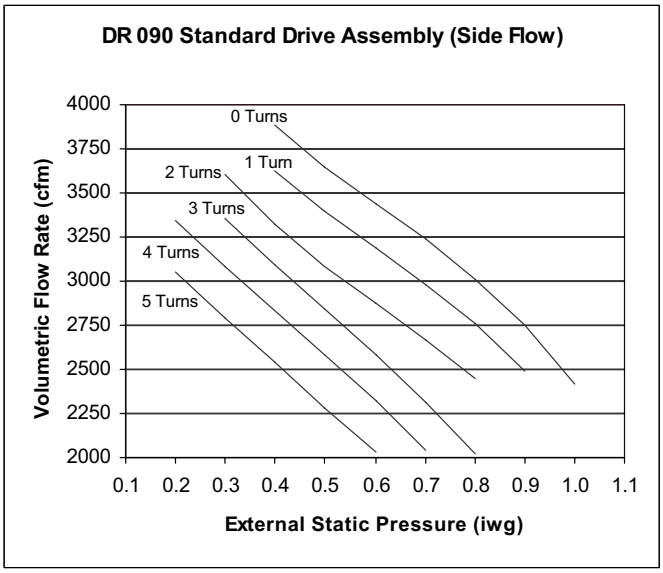
VOLTAGE		kW Cap. Multiplier
NOMINAL	RATING	
240	208	0.75
	230	0.92
480	460	0.92
600	575	0.92

NOTE: Electric heaters are rated at nominal voltage. Use this table to determine the electric heat capacity for heaters supplied at lower voltages.

TABLE 18: BLOWER PERFORMANCE DR090 SIDEFLOW

DR090 Standard Drive Assembly (Side Flow)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3342	725	1038	1.11	3048	711	912	0.98
0.3	----	----	----	----	----	----	----	----	3609	775	1283	1.38	3350	748	1125	1.21	3085	727	984	1.06	2791	713	858	0.92
0.4	3885	848	1585	1.70	3629	809	1395	1.50	3319	776	1222	1.31	3098	750	1064	1.14	2833	729	923	0.99	2539	714	797	0.86
0.5	3647	849	1517	1.63	3391	810	1328	1.42	3081	777	1155	1.24	2846	751	997	1.07	2580	730	856	0.92	2286	715	730	0.78
0.6	3439	850	1444	1.55	3182	811	1254	1.35	2872	779	1081	1.16	2586	752	923	0.99	2320	731	782	0.84	2026	717	656	0.70
0.7	3235	852	1363	1.46	2979	813	1174	1.26	2669	780	1000	1.07	2312	753	843	0.90	2047	733	701	0.75	----	----	----	----
0.8	3012	853	1276	1.37	2756	815	1087	1.17	2446	782	913	0.98	2019	755	756	0.81	----	----	----	----	----	----	----	----
0.9	2748	856	1182	1.27	2492	817	993	1.06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1	2417	859	1081	1.16	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			

DR090 Optional Drive Assembly (Side Flow)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4437	866	1859	1.99	4062	825	1599	1.72
0.4	----	----	----	----	----	----	----	----	----	----	----	----	4572	907	2074	2.23	4209	867	1783	1.91	3834	826	1522	1.63
0.5	----	----	----	----	----	----	----	----	----	----	----	----	4356	909	1992	2.14	3993	869	1701	1.82	3618	827	1440	1.54
0.6	----	----	----	----	----	----	----	----	----	----	----	----	4149	910	1905	2.04	3786	871	1613	1.73	3411	829	1353	1.45
0.7	----	----	----	----	----	----	----	----	4286	951	2134	2.29	3945	913	1812	1.94	3582	873	1520	1.63	3207	831	1260	1.35
0.8	----	----	----	----	----	----	----	----	4123	954	2036	2.18	3740	915	1713	1.84	3377	875	1422	1.53	3002	834	1161	1.25
0.9	----	----	----	----	----	----	----	----	3962	957	1932	2.07	3529	918	1609	1.73	3166	878	1318	1.41	2791	837	1057	1.13
1	----	----	----	----	4115	997	2176	2.33	3798	960	1822	1.96	3307	921	1500	1.61	2944	881	1208	1.30	----	----	----	----
1.1	----	----	----	----	3945	1000	2061	2.21	3629	963	1707	1.83	3070	925	1384	1.49	2706	885	1093	1.17	----	----	----	----
1.2	----	----	----	----	3766	1004	1940	2.08	3450	967	1587	1.70	2812	928	1264	1.36	----	----	----	----	----	----	----	----
1.3	3822	1043	2199	2.36	3573	1007	1814	1.95	3257	970	1460	1.57	----	----	----	----	----	----	----	----	----	----	----	----
1.4	3611	1047	2067	2.22	3362	1011	1682	1.80	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			



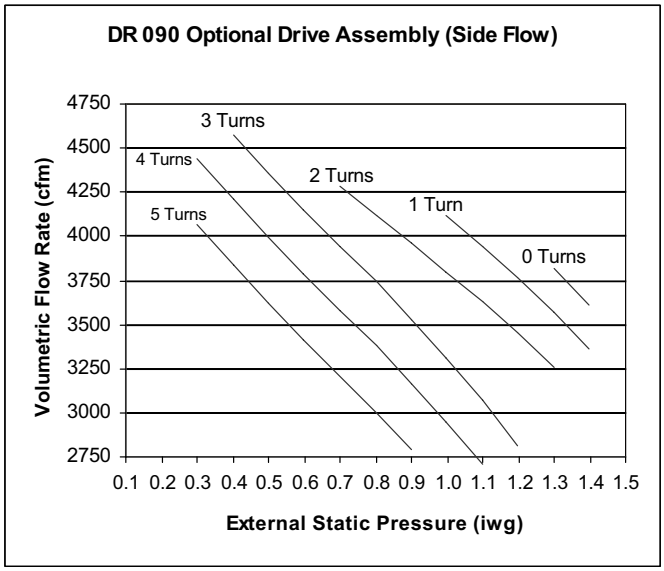
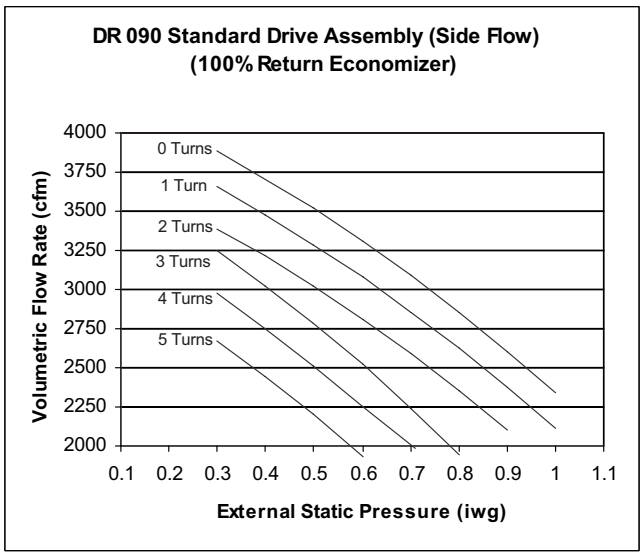


TABLE 19: BLOWER PERFORMANCE DR090 SIDEFLOW ECONOMIZER

DR090 Standard Drive Assembly (Side Flow) (100% Return Economizer)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.3	3886	846	1588	1.70	3655	807	1408	1.51	3388	774	1242	1.33	3252	747	1090	1.17	2979	726	952	1.02	2670	712	828	0.89
0.4	3709	847	1530	1.64	3478	808	1350	1.45	3211	775	1184	1.27	3027	748	1032	1.11	2754	727	894	0.96	2445	713	769	0.83
0.5	3517	848	1468	1.57	3286	809	1288	1.38	3019	776	1122	1.20	2782	749	970	1.04	2509	729	832	0.89	2199	714	707	0.76
0.6	3310	849	1401	1.50	3079	810	1221	1.31	2811	777	1055	1.13	2518	751	903	0.97	2245	730	765	0.82	1936	715	641	0.69
0.7	3088	851	1329	1.43	2857	812	1149	1.23	2590	779	983	1.05	2237	752	831	0.89	1964	731	693	0.74				
0.8	2853	853	1250	1.34	2622	814	1070	1.15	2354	781	904	0.97	1940	754	752	0.81								
0.9	2605	855	1164	1.25	2373	816	984	1.06	2106	783	818	0.88												
1	2343	858	1070	1.15	2112	819	890	0.95																
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			

DR090 Optional Drive Assembly (Side Flow) (100% Return Economizer)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.3	----	----	----	----	----	----	----	----	----	----	----	----	4651	913	2124	2.28	4331	871	1846	1.98	3990	828	1595	1.71
0.4	----	----	----	----	----	----	----	----	----	----	----	----	4434	912	2037	2.18	4114	871	1759	1.89	3772	828	1508	1.62
0.5	----	----	----	----	----	----	----	----	----	----	----	----	4232	913	1948	2.09	3912	871	1670	1.79	3571	828	1419	1.52
0.6	----	----	----	----	----	----	----	----	4319	954	2161	2.32	4040	914	1857	1.99	3720	873	1580	1.69	3379	829	1328	1.42
0.7	----	----	----	----	----	----	----	----	4159	955	2068	2.22	3852	916	1764	1.89	3532	874	1486	1.59	3190	831	1235	1.32
0.8	----	----	----	----	----	----	----	----	3996	958	1972	2.12	3660	918	1668	1.79	3340	876	1391	1.49	2999	833	1139	1.22
0.9	----	----	----	----	4137	998	2202	2.36	3825	960	1873	2.01	3459	920	1569	1.68	3139	879	1291	1.39	2797	835	1040	1.12
1	----	----	----	----	3949	1000	2100	2.25	3637	962	1770	1.90	3242	923	1466	1.57	2922	881	1189	1.28	----	----	----	----
1.1	----	----	----	----	3738	1003	1993	2.14	3427	965	1663	1.78	3002	925	1360	1.46	----	----	----	----	----	----	----	----
1.2	----	----	----	----	3498	1005	1882	2.02	3186	967	1553	1.67	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			



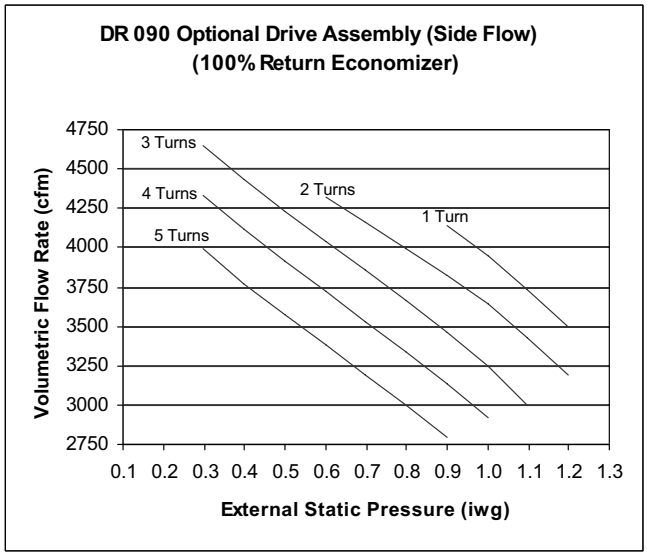
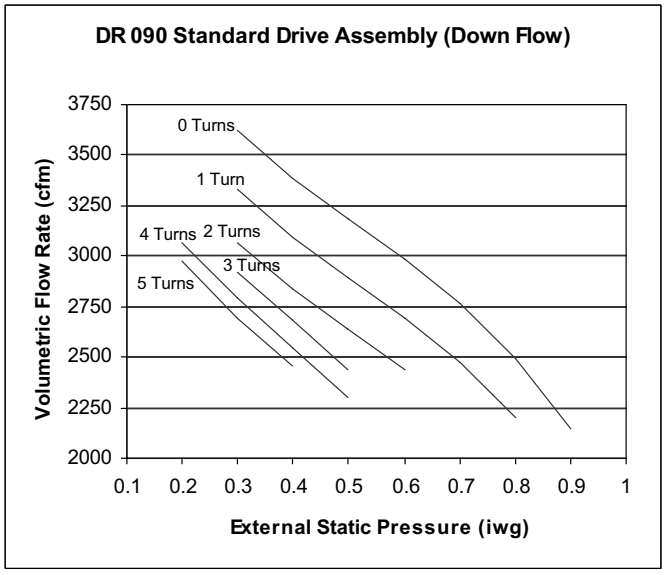


TABLE 20: BLOWER PERFORMANCE DR090 DOWNFLOW

DR090 Standard Drive Assembly (Down Flow)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3066	728	1044	1.12	2975	711	993	1.07
0.3	3619	853	1468	1.57	3328	814	1303	1.40	3071	781	1166	1.25	2922	752	1058	1.13	2788	729	978	1.05	2697	711	927	0.99
0.4	3385	854	1402	1.50	3094	815	1237	1.33	2837	782	1100	1.18	2681	753	992	1.06	2547	730	913	0.98	2455	712	862	0.92
0.5	3182	855	1334	1.43	2891	816	1169	1.25	2634	783	1032	1.11	2435	755	924	0.99	2301	732	845	0.91	----	----	----	----
0.6	2985	857	1261	1.35	2694	818	1096	1.18	2437	785	960	1.03	----	----	----	----	----	----	----	----	----	----	----	----
0.7	2764	859	1181	1.27	2473	820	1016	1.09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
0.8	2494	861	1092	1.17	2203	822	927	0.99	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
0.9	2147	864	990	1.06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			

DR090 Optional Drive Assembly (Down Flow)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3985	863	1656	1.8	3738	831	1488	1.6
0.4	----	----	----	----	----	----	----	----	4230	936	1987	2.13	3986	898	1762	1.89	3737	864	1586	1.7	3490	832	1418	1.5
0.5	----	----	----	----	----	----	----	----	4013	937	1893	2.03	3752	900	1681	1.80	3503	865	1505	1.6	3256	833	1337	1.4
0.6	----	----	----	----	4086	978	2062	2.21	3803	938	1801	1.93	3532	901	1592	1.71	3283	866	1416	1.5	3035	834	1249	1.3
0.7	----	----	----	----	3885	979	1973	2.12	3602	940	1712	1.84	3326	903	1502	1.61	3078	868	1326	1.4	2830	836	1158	1.2
0.8	3977	1023	2189	2.35	3692	981	1886	2.02	3410	942	1625	1.74	3136	905	1415	1.52	2887	870	1239	1.3	----	----	----	----
0.9	3794	1025	2102	2.26	3509	983	1799	1.93	3226	944	1538	1.65	2962	907	1335	1.43	----	----	----	----	----	----	----	----
1	3619	1027	2015	2.16	3335	985	1712	1.84	3052	946	1451	1.56	----	----	----	----	----	----	----	----	----	----	----	----
1.1	3455	1029	1926	2.07	3170	987	1623	1.74	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.2	3300	1031	1835	1.97	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			



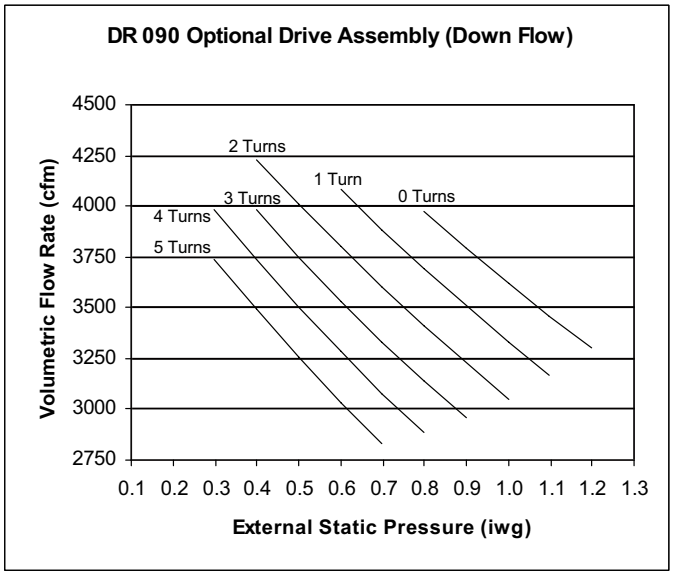
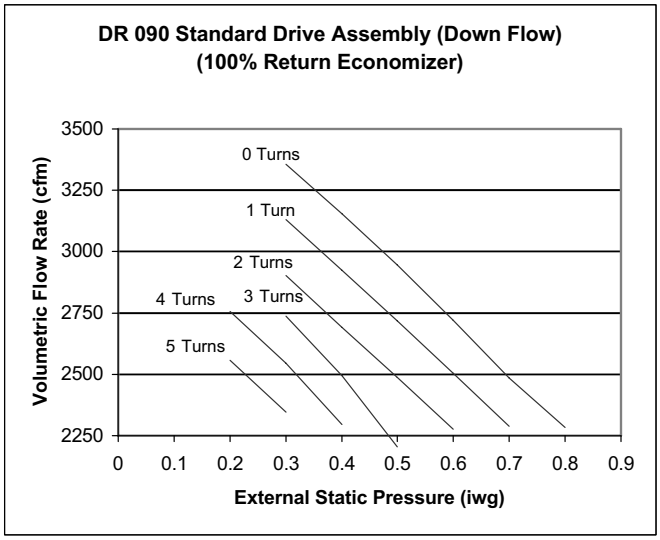


TABLE 21: BLOWER PERFORMANCE DR090 DOWNFLOW ECONOMIZER

DR090 Optional Drive Assembly (Down Flow) (100% Return Economizer)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2755	729	970	1.04	2557	712	890	0.95
0.3	3355	854	1393	1.49	3132	815	1249	1.34	2903	781	1120	1.20	2737	753	1008	1.08	2544	730	912	0.98	2347	713	831	0.89
0.4	3154	855	1324	1.42	2924	816	1181	1.27	2692	782	1053	1.13	2494	754	940	1.01	2296	732	843	0.90	----	----	----	----
0.5	2945	857	1247	1.34	2719	818	1106	1.19	2487	784	978	1.05	2204	756	866	0.93	----	----	----	----	----	----	----	----
0.6	2720	859	1166	1.25	2505	820	1027	1.10	2277	786	901	0.97	----	----	----	----	----	----	----	----	----	----	----	----
0.7	2486	861	1089	1.17	2288	822	954	1.02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
0.8	2284	863	1029	1.10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			

DR090 Optional Drive Assembly (Down Flow) (100% Return Economizer)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.3	----	----	----	----	----	----	----	----	----	----	----	----	4096	898	1795	1.93	3825	863	1613	1.73	3523	832	1429	1.53
0.4	----	----	----	----	----	----	----	----	4134	936	1945	2.09	3891	899	1731	1.86	3621	864	1548	1.66	3322	832	1361	1.46
0.5	----	----	----	----	4192	977	2109	2.26	3946	937	1864	2.00	3690	900	1657	1.78	3421	865	1473	1.58	3125	834	1286	1.38
0.6	----	----	----	----	4007	978	2028	2.18	3759	938	1782	1.91	3495	901	1577	1.69	3227	867	1392	1.49	2934	835	1205	1.29
0.7	----	----	----	----	3823	980	1946	2.09	3574	940	1700	1.82	3306	903	1493	1.60	3040	868	1309	1.40	2750	837	1122	1.20
0.8	3872	1025	2139	2.30	3643	982	1863	2.00	3392	942	1617	1.73	3127	905	1410	1.51	2861	870	1227	1.32	----	----	----	----
0.9	3698	1027	2055	2.20	3466	984	1778	1.91	3214	944	1532	1.64	2957	907	1333	1.43	----	----	----	----	----	----	----	----
1	3530	1028	1967	2.11	3295	986	1691	1.81	3041	946	1445	1.55	----	----	----	----	----	----	----	----	----	----	----	----
1.1	3368	1030	1876	2.01	3130	988	1601	1.72	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.2	3214	1032	1780	1.91	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			



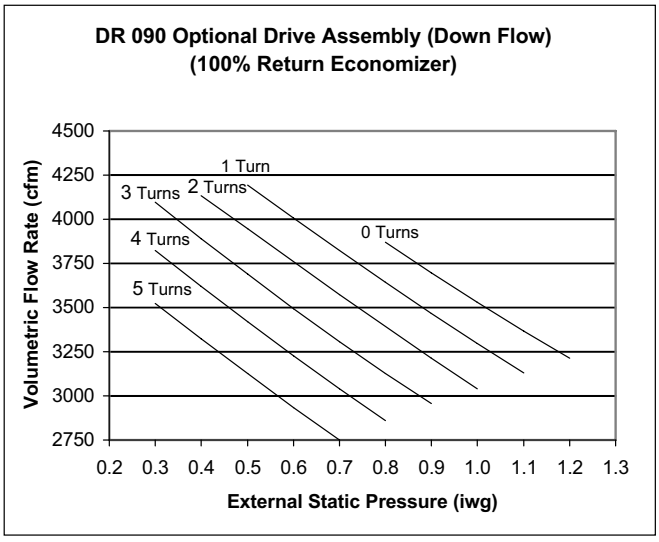
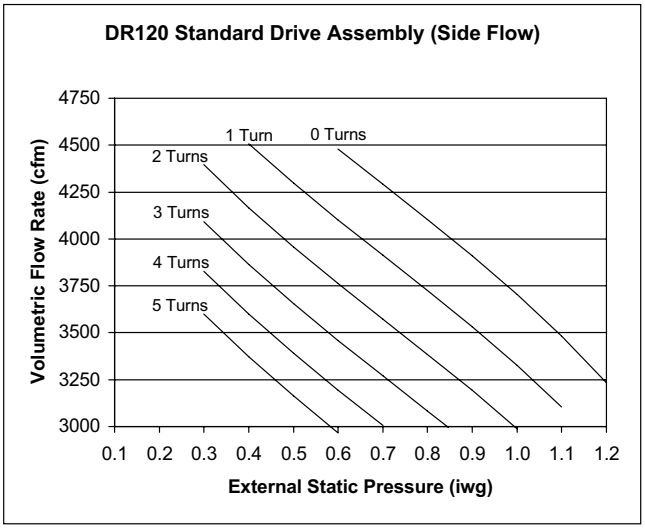


TABLE 22: BLOWER PERFORMANCE DR120 SIDEFLOW

DR120 Standard Drive Assembly (Side Flow)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.3	----	----	----	----	----	----	----	----	4396	856	1837	1.97	4093	817	1600	1.72	3828	779	1401	1.50	3601	740	1240	1.33
0.4	----	----	----	----	4507	896	2044	2.19	4167	857	1768	1.90	3864	818	1531	1.64	3599	780	1332	1.43	3372	741	1171	1.26
0.5	----	----	----	----	4298	897	1969	2.11	3957	858	1693	1.82	3655	819	1456	1.56	3390	781	1257	1.35	3163	742	1096	1.18
0.6	4480	937	2201	2.36	4102	898	1888	2.03	3762	859	1612	1.73	3459	820	1375	1.48	3194	782	1176	1.26	2967	744	1015	1.09
0.7	4291	938	2115	2.27	3914	899	1801	1.93	3573	860	1526	1.64	3271	822	1289	1.38	3006	783	1090	1.17	----	----	----	----
0.8	4104	940	2023	2.17	3726	901	1709	1.83	3386	862	1434	1.54	3083	823	1197	1.28	2818	785	998	1.07	----	----	----	----
0.9	3910	941	1926	2.07	3533	902	1612	1.73	3192	863	1337	1.43	2890	825	1100	1.18	----	----	----	----	----	----	----	----
1	3705	943	1824	1.96	3327	904	1510	1.62	2987	865	1235	1.32	----	----	----	----	----	----	----	----	----	----	----	----
1.1	3482	945	1717	1.84	3104	906	1404	1.51	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.2	3233	948	1607	1.72	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turns Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			

DR120 Optional Drive Assembly (Side Flow)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4539	907	2170	2.33	4095	859	1825	1.96
0.6	----	----	----	----	----	----	----	----	4976	997	2866	3.07	4747	953	2456	2.64	4299	907	2079	2.23	3856	860	1735	1.86
0.7	----	----	----	----	5167	1041	3204	3.44	4820	998	2762	2.96	4522	954	2353	2.52	4074	908	1976	2.12	3630	860	1631	1.75
0.8	----	----	----	----	5005	1042	3090	3.31	4658	1000	2648	2.84	4307	956	2239	2.40	3859	910	1862	2.00	3416	862	1517	1.63
0.9	----	----	----	----	4840	1044	2969	3.18	4493	1002	2527	2.71	4100	958	2118	2.27	3652	912	1741	1.87	3209	864	1396	1.50
1	5029	1087	3317	3.56	4673	1046	2843	3.05	4325	1004	2402	2.58	3898	960	1992	2.14	3450	914	1615	1.73	3007	866	1271	1.36
1.1	4862	1089	3191	3.42	4506	1049	2717	2.91	4159	1006	2275	2.44	3697	962	1866	2.00	3249	916	1489	1.60	2805	869	1144	1.23
1.2	4697	1092	3066	3.29	4341	1051	2592	2.78	3993	1009	2151	2.31	3494	965	1741	1.87	3046	919	1364	1.46	----	----	----	----
1.3	4535	1094	2947	3.16	4179	1054	2473	2.65	3832	1011	2031	2.18	3285	967	1622	1.74	----	----	----	----	----	----	----	----
1.4	4379	1096	2835	3.04	4023	1056	2361	2.53	3676	1013	1919	2.06	----	----	----	----	----	----	----	----	----	----	----	----
1.5	4230	1098	2734	2.93	3874	1057	2260	2.42	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.6	4090	1099	2646	2.84	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turns Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			



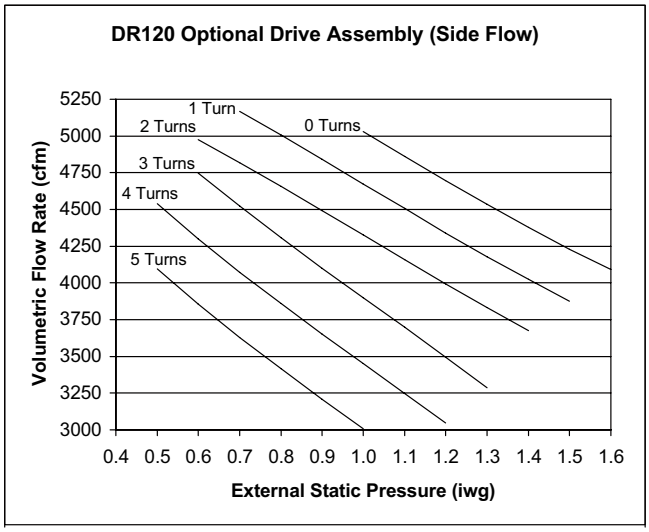
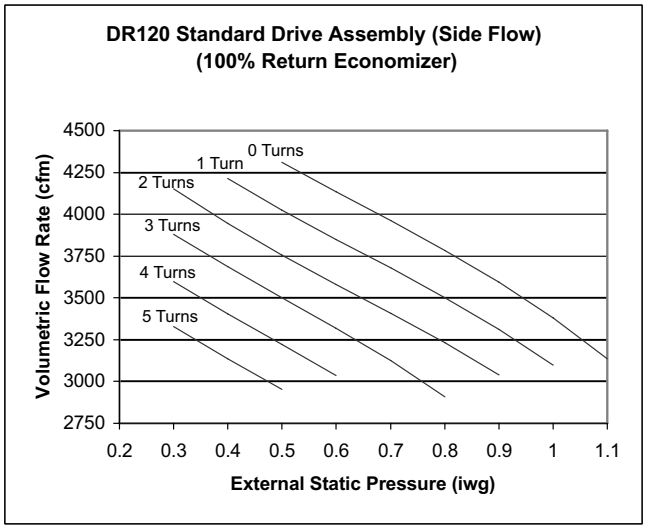


TABLE 23: BLOWER PERFORMANCE DR120 SIDEFLOW ECONOMIZER

DR120 Standard Drive Assembly (Side Flow) (100% Return Economizer)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.3	----	----	----	----	----	----	----	----	4152	858	1764	1.89	3880	820	1530	1.64	3599	783	1341	1.44	3330	746	1137	1.22
0.4	----	----	----	----	4214	899	1948	2.09	3944	859	1693	1.82	3686	821	1460	1.57	3404	784	1271	1.36	3136	747	1067	1.14
0.5	4309	939	2099	2.25	4026	900	1875	2.01	3756	860	1620	1.74	3502	822	1388	1.49	3221	785	1198	1.29	2952	748	995	1.07
0.6	4134	940	2024	2.17	3851	901	1800	1.93	3581	861	1545	1.66	3319	823	1314	1.41	3037	786	1125	1.21	----	----	----	----
0.7	3961	941	1944	2.09	3678	902	1720	1.85	3409	863	1465	1.57	3124	824	1239	1.33	----	----	----	----	----	----	----	----
0.8	3784	942	1859	1.99	3501	904	1636	1.75	3231	864	1381	1.48	2909	825	1163	1.25	----	----	----	----	----	----	----	----
0.9	3594	944	1769	1.90	3311	905	1545	1.66	3041	866	1290	1.38	----	----	----	----	----	----	----	----	----	----	----	----
1.0	3381	946	1670	1.79	3098	907	1447	1.55	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.1	3137	948	1564	1.68	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turns Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			

DR120 Optional Drive Assembly (Side Flow) (100% Return Economizer)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4390	904	2121	2.27	4026	856	1790	1.92
0.5	----	----	----	----	----	----	----	----	4693	996	2736	2.94	4471	952	2320	2.49	4140	905	2012	2.16	3775	858	1681	1.80
0.6	----	----	----	----	4863	1041	3044	3.27	4533	998	2622	2.81	4265	953	2226	2.39	3934	907	1918	2.06	3569	860	1587	1.70
0.7	----	----	----	----	4714	1042	2939	3.15	4383	1000	2517	2.70	4090	955	2142	2.30	3758	909	1834	1.97	3394	861	1503	1.61
0.8	4876	1086	3219	3.45	4572	1044	2840	3.05	4242	1002	2419	2.59	3930	957	2062	2.21	3598	911	1754	1.88	3234	863	1423	1.53
0.9	4741	1088	3126	3.35	4437	1046	2748	2.95	4107	1004	2326	2.50	3770	959	1981	2.13	3439	913	1674	1.80	3075	865	1343	1.44
1.0	4612	1090	3037	3.26	4308	1049	2659	2.85	3978	1006	2237	2.40	3597	961	1895	2.03	3266	915	1587	1.70	2902	868	1256	1.35
1.1	4486	1092	2952	3.17	4182	1051	2574	2.76	3852	1008	2152	2.31	3396	963	1797	1.93	3065	917	1489	1.60	----	----	----	----
1.2	4363	1094	2868	3.08	4059	1053	2490	2.67	3729	1010	2068	2.22	3152	966	1682	1.80	2821	920	1375	1.47	----	----	----	----
1.3	4240	1096	2784	2.99	3936	1055	2406	2.58	3606	1012	1984	2.13	2850	968	1546	1.66	----	----	----	----	----	----	----	----
1.4	4116	1098	2700	2.90	3812	1057	2321	2.49	3482	1015	1900	2.04	----	----	----	----	----	----	----	----	----	----	----	----
1.5	3990	1101	2613	2.80	3686	1060	2234	2.40	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.6	3859	1103	2522	2.71	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turns Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			



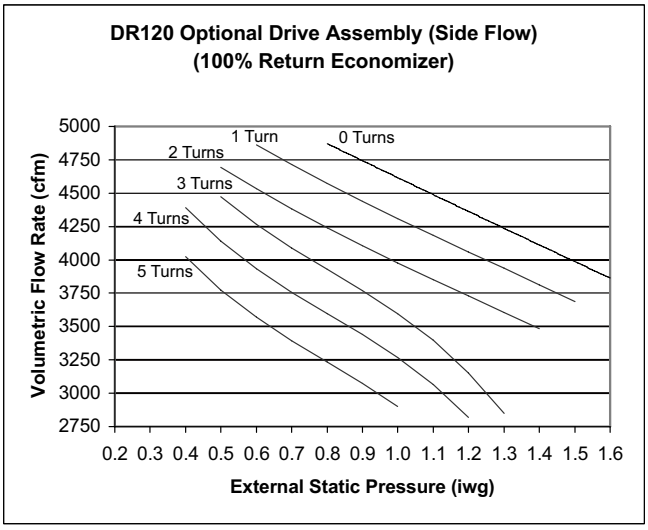
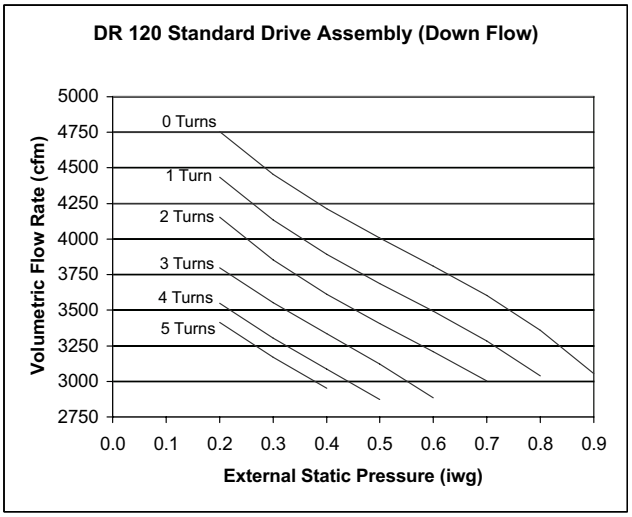


TABLE 24: BLOWER PERFORMANCE DR120 DOWNFLOW

DR120 Standard Drive Assembly (Down Flow)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.2	4755	914	2162	2.32	4436	875	1964	2.11	4154	838	1739	1.87	3799	800	1476	1.58	3549	762	1296	1.39	3415	725	1168	1.25
0.3	4455	915	2034	2.18	4136	877	1836	1.97	3853	839	1611	1.73	3553	802	1372	1.47	3303	764	1192	1.28	3169	727	1064	1.14
0.4	4213	917	1935	2.08	3894	879	1737	1.86	3611	841	1512	1.62	3336	803	1286	1.38	3086	766	1107	1.19	2952	728	979	1.05
0.5	4006	918	1851	1.99	3687	880	1652	1.77	3405	842	1428	1.53	3123	805	1204	1.29	2872	767	1024	1.10	----	----	----	----
0.6	3811	920	1767	1.90	3492	882	1568	1.68	3209	844	1344	1.44	2885	806	1109	1.19	----	----	----	----	----	----	----	----
0.7	3603	922	1669	1.79	3284	884	1471	1.58	3002	846	1246	1.34	----	----	----	----	----	----	----	----	----	----	----	----
0.8	3359	924	1543	1.66	3040	886	1345	1.44	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
0.9	3056	926	1375	1.48	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			

DR120 Optional Drive Assembly (Down Flow)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4156	909	2226	2.39	3811	860	1669	1.79
0.5	----	----	----	----	----	----	----	----	4635	1003	2569	2.76	4287	957	2367	2.54	3942	910	2132	2.29	3597	861	1575	1.69
0.6	----	----	----	----	4773	1048	2865	3.07	4425	1004	2477	2.66	4078	959	2274	2.44	3732	911	2038	2.19	3388	862	1481	1.59
0.7	4919	1091	3182	3.41	4569	1049	2764	2.97	4221	1006	2376	2.55	3874	960	2180	2.34	3528	913	1944	2.09	3183	864	1387	1.49
0.8	4721	1092	3073	3.30	4371	1051	2655	2.85	4023	1007	2267	2.43	3676	962	2085	2.24	3330	915	1850	1.98	----	----	----	----
0.9	4530	1094	2958	3.17	4180	1052	2540	2.72	3832	1009	2152	2.31	3485	964	1990	2.14	----	----	----	----	----	----	----	----
1	4347	1096	2839	3.05	3997	1055	2421	2.60	3649	1011	2033	2.18	----	----	----	----	----	----	----	----	----	----	----	----
1.1	4172	1099	2717	2.91	3822	1057	2299	2.47	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.2	4007	1101	2595	2.78	3658	1060	2178	2.34	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.3	3853	1104	2475	2.65	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			



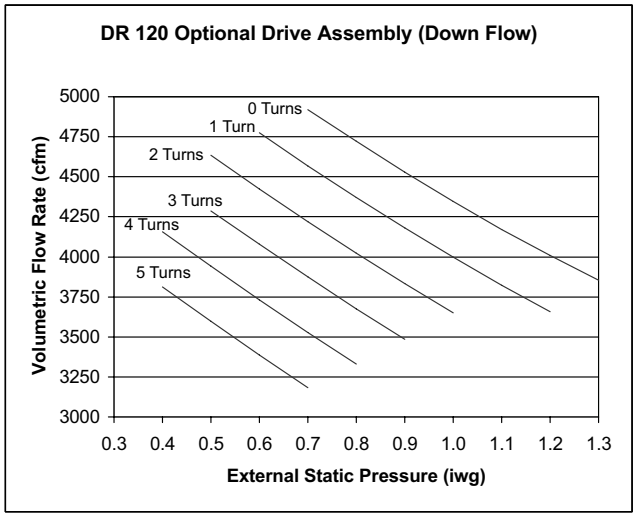
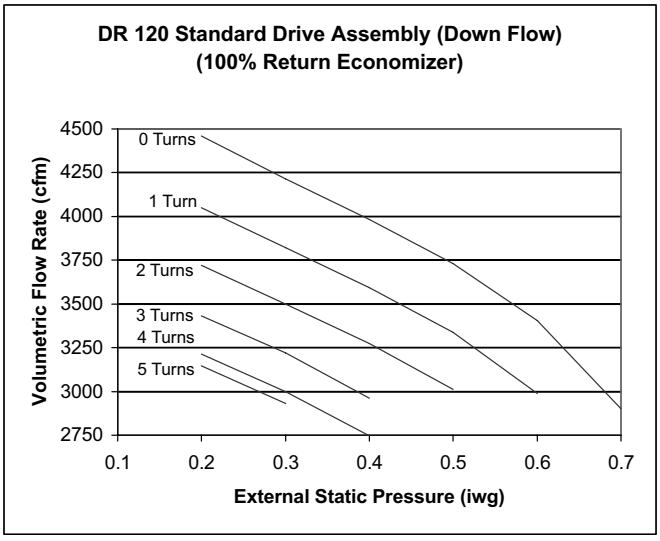


TABLE 25: BLOWER PERFORMANCE DR120 DOWNFLOW ECONOMIZER

DR120 Standard Drive Assembly (Down Flow) (100% Return Economizer)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.2	4461	915	2037	2.19	4050	878	1801	1.93	3721	840	1557	1.67	3433	802	1324	1.42	3214	765	1157	1.24	3148	727	1056	1.13
0.3	4216	917	1936	2.08	3820	879	1707	1.83	3499	842	1466	1.57	3219	804	1241	1.33	2999	766	1073	1.15	2930	728	970	1.04
0.4	3982	919	1840	1.97	3593	881	1613	1.73	3274	844	1372	1.47	2962	806	1140	1.22	2746	768	975	1.05	----	----	----	----
0.5	3730	921	1730	1.86	3337	883	1496	1.61	3013	846	1251	1.34	----	----	----	----	----	----	----	----	----	----	----	----
0.6	3404	924	1567	1.68	2988	886	1317	1.41	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
0.7	2902	928	1288	1.38	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			

DR120 Optional Drive Assembly (Down Flow) (100% Return Economizer)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.3	----	----	----	----	----	----	----	----	----	----	----	----	4240	958	2346	2.52	3801	911	2069	2.2	3315	863	1448	1.6
0.4	----	----	----	----	----	----	----	----	4437	1004	2483	2.66	4048	959	2260	2.42	3611	912	1983	2.1	3128	864	1362	1.5
0.5	4893	1091	3168	3.40	4599	1049	2780	2.98	4258	1005	2395	2.57	3870	960	2178	2.34	3435	914	1901	2	----	----	----	----
0.6	4726	1092	3076	3.30	4431	1050	2689	2.88	4089	1007	2305	2.47	3702	962	2098	2.25	3270	915	1821	2	----	----	----	----
0.7	4567	1094	2981	3.20	4270	1052	2596	2.78	3929	1008	2211	2.37	3543	963	2020	2.17	----	----	----	----	----	----	----	----
0.8	4414	1095	2883	3.09	4115	1053	2499	2.68	3774	1010	2115	2.27	3389	965	1941	2.08	----	----	----	----	----	----	----	----
0.9	4264	1097	2782	2.98	3963	1055	2398	2.57	3621	1012	2014	2.16	----	----	----	----	----	----	----	----	----	----	----	----
1	4116	1099	2676	2.87	3813	1057	2293	2.46	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.1	3968	1102	2566	2.75	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			



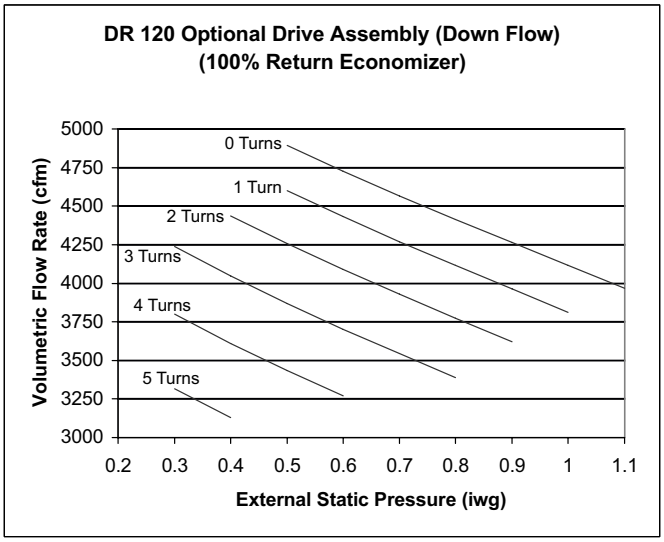
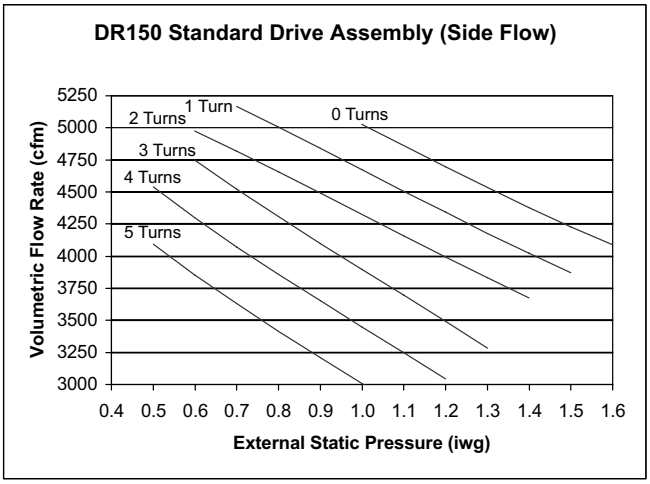


TABLE 26: BLOWER PERFORMANCE DR150 SIDEFLOW

DR150 Standard Drive Assembly (Side Flow)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4539	907	2170	2.33	4095	859	1825	1.96
0.6	----	----	----	----	----	----	----	----	4976	997	2866	3.07	4747	953	2456	2.64	4299	907	2079	2.23	3856	860	1735	1.86
0.7	----	----	----	----	5167	1041	3204	3.44	4820	998	2762	2.96	4522	954	2353	2.52	4074	908	1976	2.12	3630	860	1631	1.75
0.8	----	----	----	----	5005	1042	3090	3.31	4658	1000	2648	2.84	4307	956	2239	2.40	3859	910	1862	2.00	3416	862	1517	1.63
0.9	----	----	----	----	4840	1044	2969	3.18	4493	1002	2527	2.71	4100	958	2118	2.27	3652	912	1741	1.87	3209	864	1396	1.50
1	5029	1087	3317	3.56	4673	1046	2843	3.05	4325	1004	2402	2.58	3898	960	1992	2.14	3450	914	1615	1.73	3007	866	1271	1.36
1.1	4862	1089	3191	3.42	4506	1049	2717	2.91	4159	1006	2275	2.44	3697	962	1866	2.00	3249	916	1489	1.60	2805	869	1144	1.23
1.2	4697	1092	3066	3.29	4341	1051	2592	2.78	3993	1009	2151	2.31	3494	965	1741	1.87	3046	919	1364	1.46	----	----	----	----
1.3	4535	1094	2947	3.16	4179	1054	2473	2.65	3832	1011	2031	2.18	3285	967	1622	1.74	----	----	----	----	----	----	----	----
1.4	4379	1096	2835	3.04	4023	1056	2361	2.53	3676	1013	1919	2.06	----	----	----	----	----	----	----	----	----	----	----	----
1.5	4230	1098	2734	2.93	3874	1057	2260	2.42	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.6	4090	1099	2646	2.84	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			

DR150 Optional Drive Assembly (Side Flow)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5211	1066	3048	3.56
0.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5285	1111	3356	3.91	5002	1066	2948	3.44
0.7	----	----	----	----	----	----	----	----	----	----	----	----	5398	1155	3698	4.31	5099	1111	3259	3.80	4816	1067	2852	3.33
0.8	----	----	----	----	5812	1239	4607	5.37	5500	1198	4070	4.75	5232	1156	3604	4.20	4932	1112	3165	3.69	4649	1067	2758	3.22
0.9	5987	1279	5039	5.88	5677	1239	4512	5.26	5366	1198	3974	4.64	5081	1156	3511	4.10	4782	1112	3073	3.59	4499	1067	2666	3.11
1	5865	1280	4944	5.77	5555	1240	4417	5.15	5244	1199	3880	4.53	4945	1157	3420	3.99	4646	1113	2981	3.48	4363	1068	2574	3.00
1.1	5753	1281	4848	5.66	5443	1241	4322	5.04	5131	1200	3784	4.41	4820	1157	3327	3.88	4521	1114	2889	3.37	4238	1069	2481	2.90
1.2	5646	1281	4751	5.54	5336	1242	4225	4.93	5025	1201	3687	4.30	4703	1158	3233	3.77	4403	1115	2795	3.26	4120	1070	2388	2.79
1.3	5542	1282	4651	5.43	5232	1243	4125	4.81	4921	1202	3587	4.18	4590	1159	3137	3.66	4291	1116	2699	3.15	4008	1071	2291	2.67
1.4	5438	1284	4548	5.31	5128	1244	4021	4.69	4816	1203	3483	4.06	4481	1160	3037	3.54	4181	1117	2599	3.03	3898	1072	2192	2.56
1.5	5329	1285	4439	5.18	5019	1245	3912	4.56	4707	1204	3375	3.94	4370	1162	2933	3.42	4071	1118	2495	2.91	3788	1073	2087	2.44
1.6	5212	1286	4325	5.05	4902	1246	3798	4.43	4591	1205	3260	3.80	4256	1163	2824	3.29	3957	1119	2385	2.78	----	----	----	----
1.7	5085	1288	4203	4.90	4775	1248	3677	4.29	4464	1207	3139	3.66	4136	1164	2707	3.16	----	----	----	----	----	----	----	----
1.8	4944	1289	4074	4.75	4633	1249	3548	4.14	4322	1208	3010	3.51	----	----	----	----	----	----	----	----	----	----	----	----
1.9	4784	1291	3937	4.59	4474	1251	3410	3.98	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
2	4604	1293	3789	4.42	4294	1253	3262	3.81	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
2.1	4399	1294	3630	4.24	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open				6 Turns Open			



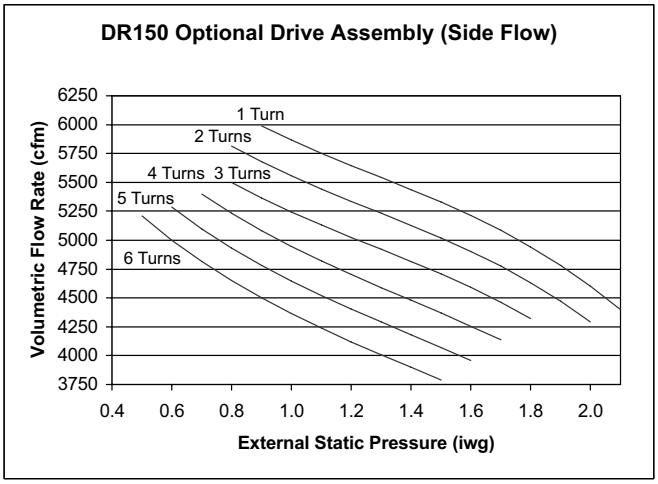
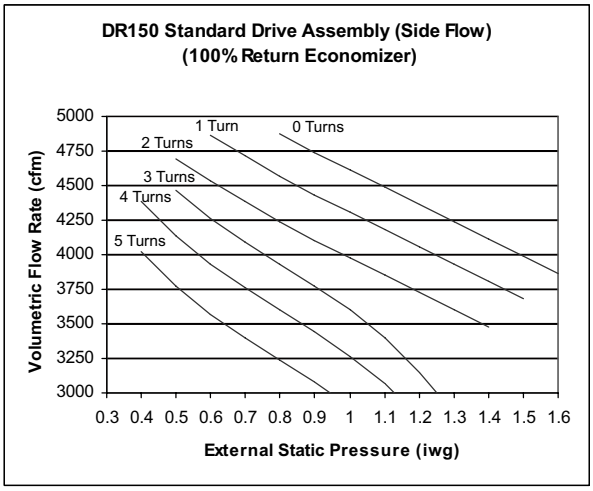


TABLE 27: BLOWER PERFORMANCE DR150 SIDEFLOW ECONOMIZER

DR150 Standard Drive Assembly (Side Flow) (100% Return Economizer)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4390	904	2121	2.27	4026	856	1790	1.92
0.5	----	----	----	----	----	----	----	----	4693	996	2736	2.94	4471	952	2320	2.49	4140	905	2012	2.16	3775	858	1681	1.80
0.6	----	----	----	----	4863	1041	3044	3.27	4533	998	2622	2.81	4265	953	2226	2.39	3934	907	1918	2.06	3569	860	1587	1.70
0.7	----	----	----	----	4714	1042	2939	3.15	4383	1000	2517	2.70	4090	955	2142	2.30	3758	909	1834	1.97	3394	861	1503	1.61
0.8	4876	1086	3219	3.45	4572	1044	2840	3.05	4242	1002	2419	2.59	3930	957	2062	2.21	3598	911	1754	1.88	3234	863	1423	1.53
0.9	4741	1088	3126	3.35	4437	1046	2748	2.95	4107	1004	2326	2.50	3770	959	1981	2.13	3439	913	1674	1.80	3075	865	1343	1.44
1.0	4612	1090	3037	3.26	4308	1049	2659	2.85	3978	1006	2237	2.40	3597	961	1895	2.03	3266	915	1587	1.70	2902	868	1256	1.35
1.1	4486	1092	2952	3.17	4182	1051	2574	2.76	3852	1008	2152	2.31	3396	963	1797	1.93	3065	917	1489	1.60	----	----	----	----
1.2	4363	1094	2868	3.08	4059	1053	2490	2.67	3729	1010	2068	2.22	3152	966	1682	1.80	2821	920	1375	1.47	----	----	----	----
1.3	4240	1096	2784	2.99	3936	1055	2406	2.58	3606	1012	1984	2.13	2850	968	1546	1.66	----	----	----	----	----	----	----	----
1.4	4116	1098	2700	2.90	3812	1057	2321	2.49	3482	1015	1900	2.04	----	----	----	----	----	----	----	----	----	----	----	----
1.5	3990	1101	2613	2.80	3686	1060	2234	2.40	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.6	3859	1103	2522	2.71	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turns Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			

DR150 Optional Drive Assembly (Side Flow) (100% Return Economizer)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5072	1112	3186	3.72	4790	1067	2831	3.30
0.5	----	----	----	----	----	----	----	----	----	----	----	----	5226	1156	3511	4.10	4933	1112	3110	3.63	4651	1067	2755	3.21
0.6	----	----	----	----	----	----	----	----	5191	1198	3880	4.53	5093	1156	3434	4.01	4800	1112	3033	3.54	4518	1067	2677	3.12
0.7	----	----	----	----	5471	1240	4291	5.01	5151	1199	3801	4.43	4965	1156	3355	3.91	4672	1113	2954	3.45	4390	1068	2598	3.03
0.8	5743	1280	4746	5.54	5412	1240	4211	4.91	5092	1199	3720	4.34	4842	1157	3274	3.82	4549	1113	2873	3.35	4266	1068	2517	2.94
0.9	5666	1281	4664	5.44	5335	1241	4128	4.82	5015	1200	3637	4.24	4722	1158	3191	3.72	4428	1114	2790	3.26	4146	1069	2434	2.84
1.0	5574	1282	4578	5.34	5244	1242	4042	4.72	4923	1201	3552	4.14	4604	1159	3106	3.62	4311	1115	2705	3.16	4029	1070	2349	2.74
1.1	5470	1283	4491	5.24	5139	1243	3955	4.61	4819	1202	3464	4.04	4488	1160	3018	3.52	4195	1116	2617	3.05	3913	1071	2261	2.64
1.2	5355	1284	4400	5.13	5024	1244	3864	4.51	4704	1203	3373	3.94	4372	1161	2927	3.42	4079	1117	2527	2.95	3797	1072	2171	2.53
1.3	5232	1285	4306	5.02	4901	1245	3770	4.40	4581	1204	3279	3.83	4257	1162	2834	3.31	3964	1118	2433	2.84	----	----	----	----
1.4	5103	1286	4209	4.91	4773	1247	3673	4.29	4453	1206	3182	3.71	4140	1163	2737	3.19	3847	1120	2336	2.73	----	----	----	----
1.5	4971	1287	4109	4.79	4641	1248	3573	4.17	4321	1207	3082	3.60	4021	1165	2636	3.08	----	----	----	----	----	----	----	----
1.6	4838	1289	4004	4.67	4508	1249	3468	4.05	4188	1208	2978	3.47	3899	1166	2532	2.95	----	----	----	----	----	----	----	----
1.7	4707	1290	3896	4.55	4376	1250	3360	3.92	4056	1209	2869	3.35	3774	1167	2423	2.83	----	----	----	----	----	----	----	----
1.8	4579	1291	3783	4.41	4248	1252	3247	3.79	3928	1211	2756	3.22	----	----	----	----	----	----	----	----	----	----	----	----
1.9	4456	1292	3666	4.28	4126	1253	3130	3.65	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
2.0	4342	1293	3544	4.13	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open				6 Turns Open			



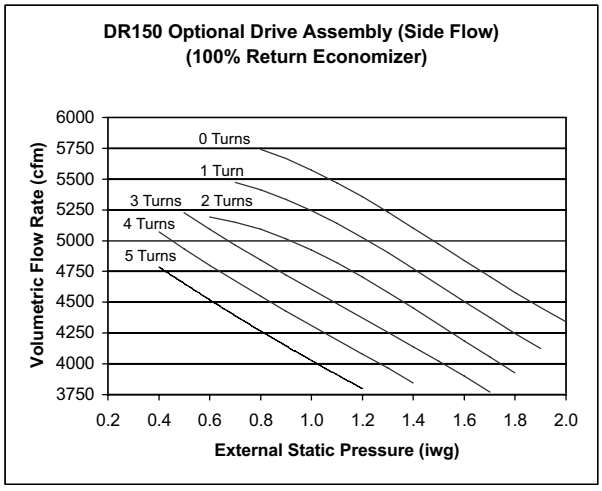
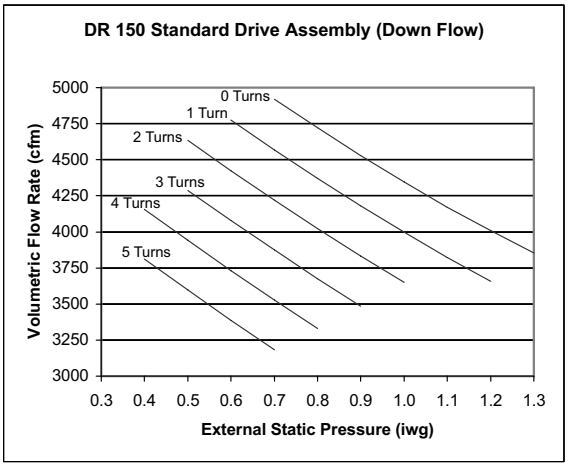


TABLE 28: BLOWER PERFORMANCE DR150 DOWNFLOW

DR150 Standard Drive Assembly (Down Flow)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4156	909	2226	2.39	3811	860	1669	1.79
0.5	----	----	----	----	----	----	----	----	4635	1003	2569	2.76	4287	957	2367	2.54	3942	910	2132	2.29	3597	861	1575	1.69
0.6	----	----	----	----	4773	1048	2865	3.07	4425	1004	2477	2.66	4078	959	2274	2.44	3732	911	2038	2.19	3388	862	1481	1.59
0.7	4919	1091	3182	3.41	4569	1049	2764	2.97	4221	1006	2376	2.55	3874	960	2180	2.34	3528	913	1944	2.09	3183	864	1387	1.49
0.8	4721	1092	3073	3.30	4371	1051	2655	2.85	4023	1007	2267	2.43	3676	962	2085	2.24	3330	915	1850	1.98	----	----	----	----
0.9	4530	1094	2958	3.17	4180	1052	2540	2.72	3832	1009	2152	2.31	3485	964	1990	2.14	----	----	----	----	----	----	----	----
1	4347	1096	2839	3.05	3997	1055	2421	2.60	3649	1011	2033	2.18	----	----	----	----	----	----	----	----	----	----	----	----
1.1	4172	1099	2717	2.91	3822	1057	2299	2.47	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.2	4007	1101	2595	2.78	3658	1060	2178	2.34	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.3	3853	1104	2475	2.65	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			

DR150 Optional Drive Assembly (Down Flow)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4850	1115	2991	3.49	4589	1070	2656	3.10
0.6	----	----	----	----	5406	1246	4041	4.71	5158	1203	3639	4.24	4906	1160	3259	3.80	4649	1116	2902	3.39	4387	1071	2567	3.00
0.7	5469	1287	4369	5.10	5226	1246	3944	4.60	4978	1204	3542	4.13	4726	1161	3162	3.69	4469	1117	2805	3.27	4207	1072	2471	2.88
0.8	5306	1288	4266	4.98	5063	1247	3841	4.48	4815	1205	3439	4.01	4562	1162	3059	3.57	4305	1117	2702	3.15	4044	1072	2368	2.76
0.9	5156	1288	4158	4.85	4912	1247	3733	4.36	4665	1205	3331	3.89	4412	1162	2952	3.44	4155	1118	2594	3.03	3894	1073	2260	2.64
1	5014	1289	4047	4.72	4771	1248	3622	4.23	4523	1206	3220	3.76	4271	1163	2840	3.31	4014	1119	2483	2.90	3752	1073	2149	2.51
1.1	4877	1290	3934	4.59	4634	1249	3509	4.09	4387	1207	3107	3.63	4134	1164	2728	3.18	3877	1119	2370	2.77	----	----	----	----
1.2	4741	1291	3821	4.46	4498	1250	3396	3.96	4250	1208	2994	3.49	3998	1165	2614	3.05	3741	1120	2257	2.63	----	----	----	----
1.3	4601	1292	3709	4.33	4358	1251	3284	3.83	4110	1209	2882	3.36	3858	1166	2502	2.92	----	----	----	----	----	----	----	----
1.4	4454	1295	3600	4.20	4211	1254	3175	3.70	3963	1211	2773	3.24	3710	1168	2393	2.79	----	----	----	----	----	----	----	----
1.5	4294	1297	3495	4.08	4051	1256	3070	3.58	3803	1214	2668	3.11	----	----	----	----	----	----	----	----	----	----	----	----
	1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open				6 Turns Open			



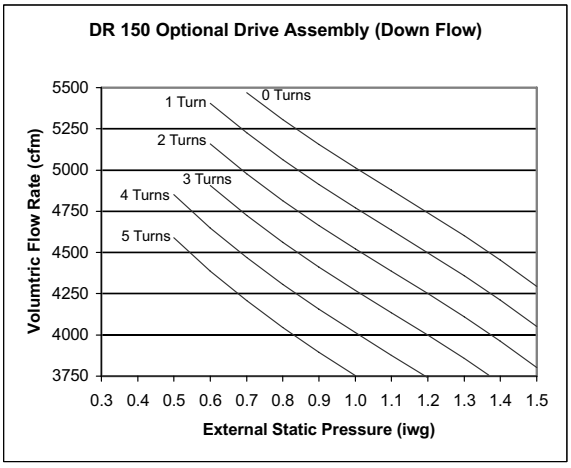
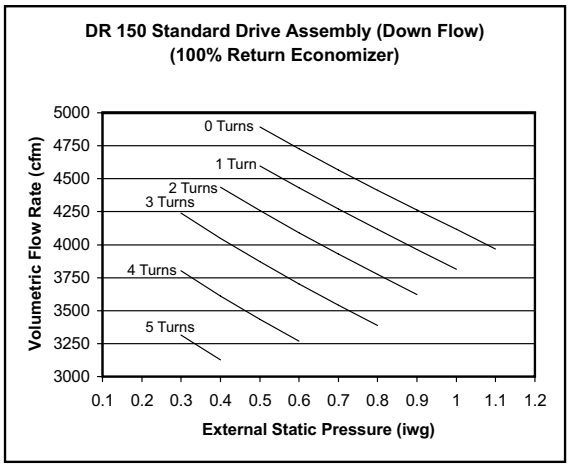


TABLE 29: BLOWER PERFORMANCE DR150 DOWNFLOW ECONOMIZER

DR150 Standard Drive Assembly (Down Flow) (100% Return Economizer)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.3	----	----	----	----	----	----	----	----	----	----	----	----	4240	958	2346	2.52	3801	911	2069	2.22	3315	863	1448	1.55
0.4	----	----	----	----	----	----	----	----	4437	1004	2483	2.66	4048	959	2260	2.42	3611	912	1983	2.13	3128	864	1362	1.46
0.5	4893	1091	3168	3.40	4599	1049	2780	2.98	4258	1005	2395	2.57	3870	960	2178	2.34	3435	914	1901	2.04	----	----	----	----
0.6	4726	1092	3076	3.30	4431	1050	2689	2.88	4089	1007	2305	2.47	3702	962	2098	2.25	3270	915	1821	1.95	----	----	----	----
0.7	4567	1094	2981	3.20	4270	1052	2596	2.78	3929	1008	2211	2.37	3543	963	2020	2.17	----	----	----	----	----	----	----	----
0.8	4414	1095	2883	3.09	4115	1053	2499	2.68	3774	1010	2115	2.27	3389	965	1941	2.08	----	----	----	----	----	----	----	----
0.9	4264	1097	2782	2.98	3963	1055	2398	2.57	3621	1012	2014	2.16	----	----	----	----	----	----	----	----	----	----	----	----
1	4116	1099	2676	2.87	3813	1057	2293	2.46	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1.1	3968	1102	2566	2.75	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	0 Turns Open				1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open			

DR150 Optional Drive Assembly (Down Flow) (100% Return Economizer)																								
ESP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP	CFM	RPM	WATT	BHP
0.4	5344	1288	4291	5.01	5247	1246	3957	4.62	5128	1204	3624	4.23	4982	1160	3295	3.84	4803	1115	2972	3.47	4589	1070	2656	3.1
0.5	5121	1289	4132	4.82	5007	1247	3803	4.44	4871	1205	3476	4.06	4710	1161	3153	3.68	4520	1117	2834	3.31	4297	1071	2521	2.94
0.6	4944	1289	3989	4.65	4823	1248	3664	4.27	4677	1205	3341	3.90	4507	1162	3021	3.52	4309	1117	2705	3.16	4083	1072	2393	2.79
0.7	4797	1290	3866	4.51	4673	1249	3542	4.13	4523	1206	3220	3.76	4348	1162	2902	3.39	4146	1118	2588	3.02	3917	1073	2277	2.66
0.8	4667	1292	3761	4.39	4545	1249	3435	4.01	4395	1207	3114	3.63	4218	1163	2797	3.26	4014	1119	2483	2.9	3783	1073	2173	2.54
0.9	4549	1293	3669	4.28	4432	1251	3342	3.90	4283	1207	3021	3.52	4105	1164	2704	3.15	3901	1119	2390	2.79	----	----	----	----
1	4438	1295	3588	4.19	4326	1252	3260	3.80	4180	1208	2937	3.43	4004	1165	2619	3.06	3800	1120	2306	2.69	----	----	----	----
1.1	4327	1297	3515	4.10	4223	1253	3183	3.71	4081	1210	2859	3.34	3907	1166	2541	2.96	3704	1121	2227	2.6	----	----	----	----
1.2	4211	1299	3446	4.02	4115	1255	3111	3.63	3979	1211	2785	3.25	3809	1167	2465	2.88	----	----	----	----	----	----	----	----
1.3	4082	1302	3377	3.94	3998	1257	3038	3.54	3869	1213	2710	3.16	3703	1168	2388	2.79	----	----	----	----	----	----	----	----
1.4	3932	1306	3308	3.86	3862	1260	2964	3.46	3742	1216	2632	3.07	----	----	----	----	----	----	----	----	----	----	----	----
	1 Turn Open				2 Turns Open				3 Turns Open				4 Turns Open				5 Turns Open				6 Turns Open			



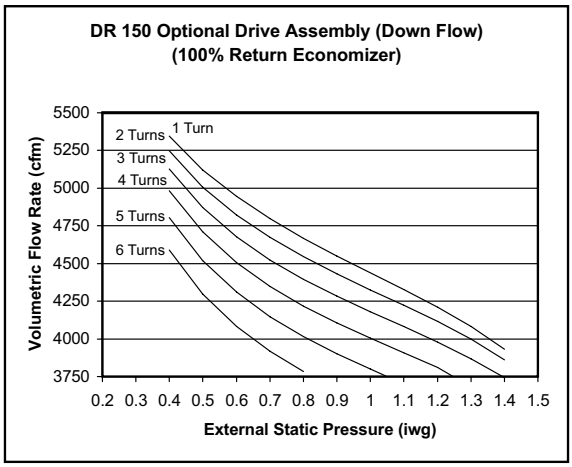


TABLE 30: ADDITIONAL STATIC RESISTANCE

CFM	Gas Heat	Electric Heat KW				
		9	18	24	36	54
2300	0.08	0.07	0.08	0.09	0.10	0.13
2500	0.09	0.08	0.09	0.10	0.11	0.14
2700	0.11	0.09	0.10	0.12	0.13	0.16
2900	0.12	0.10	0.11	0.13	0.14	0.18
3100	0.14	0.12	0.13	0.15	0.16	0.20
3300	0.16	0.13	0.14	0.17	0.18	0.22
3500	0.18	0.15	0.16	0.19	0.20	0.24
3700	0.20	0.17	0.18	0.21	0.22	0.26
3900	0.23	0.19	0.20	0.23	0.24	0.28
4100	0.25	0.21	0.22	0.25	0.26	0.31
4300	0.28	0.23	0.24	0.28	0.29	0.34
4500	0.30	0.25	0.26	0.30	0.31	0.37
4700	0.33	0.28	0.29	0.33	0.34	0.40
4900	0.36	0.30	0.31	0.35	0.37	0.43
5100	0.39	0.33	0.34	0.38	0.40	0.46
5300	0.42	0.35	0.37	0.41	0.43	0.49
5500	0.45	0.38	0.40	0.44	0.46	0.53
5700	0.48	0.41	0.43	0.47	0.49	0.56
5900	0.52	0.44	0.46	0.50	0.53	0.59
6100	0.56	0.47	0.49	0.53	0.56	0.62
6300	0.60	0.50	0.53	0.56	0.59	0.65

TABLE 31: ELECTRIC HEAT MINIMUM SUPPLY AIR CFM

HEATER		UNIT MODEL SIZE, NOMINAL TONS		
kW	VOLTAGE	090	120	150
		MINIMUM SUPPLY AIR CFM		
9	208/230	2250	N/A	N/A
18		2250	3000	3750
24		2250	3000	3750
36		2250	3000	3750
54		N/A	3500	4000
9	480	2250	N/A	N/A
18		2250	3000	3750
24		2250	3000	3750
36		2250	3000	3750
54		N/A	3000	3750
9	600	2250	N/A	N/A
18		2250	3000	3750
24		2250	3000	3750
36		2250	3000	3750
54		N/A	3500	3750

TABLE 32: INDOOR BLOWER SPECIFICATIONS

MODEL	MOTOR					MOTOR SHEAVE			BLOWER SHEAVE			BELT
	HP	RPM	Eff.	SF	Frame	Datum Dia. (in.)	Bore (in.)	Model	Datum Dia. (in.)	Bore (in.)	Model	
DR090	1-1/2	1725	80%	1.15	56	3.4 - 4.4	7/8	1VM50	9.0	1	AK94	A57
	2	1725	80%	1.15	56	3.4 - 4.4	7/8	1VM50	7.5	1	AK79	A55
DR120	2	1725	80%	1.15	56	3.4 - 4.4	7/8	1VM50	8.5	1	AK89	A56
	3	1725	80%	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
DR150	3	1725	80%	1.15	56	3.4 - 4.4	7/8	1VM50	7.0	1	AK74	A54
	5	1725	87%	1.15	184T	4.3 - 5.3	1 1/8	1VP56	6.7	1	BK77	BX55

TABLE 33: POWER EXHAUST SPECIFICATIONS

POWER EXHAUST MODEL	VOLT	PHASE	MOTOR			ELECTRICAL			FUSE SIZE	CFM @ 0.1 ESP
			HP	RPM[1]	QTY	LRA	FLA	MCA		
2PE0473125	208/230	1	0.75	1075	1	24.9	5.0	6.3	10	3,800
2PE0473146	460	1				N/A	2.2	2.8	5	
2PE0473158	575	1		1050			1.5	1.9	4	

1. Motors are multi-tapped and factory-wired for high speed.

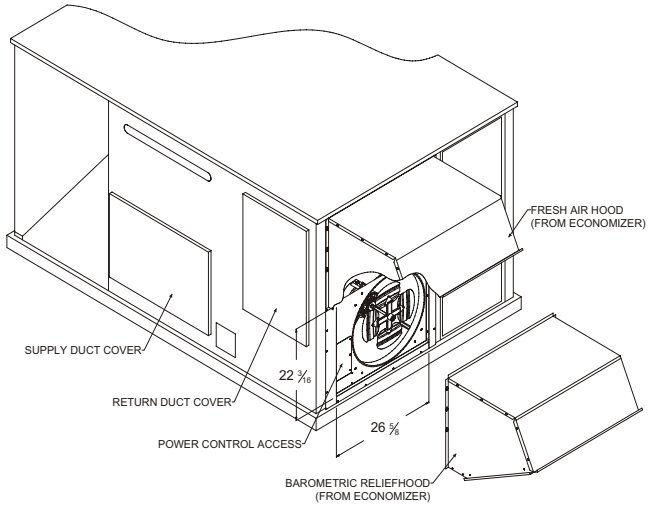


FIGURE 12 - DOWNFLOW APPLICATION POWER EXHAUST ACCESSORY

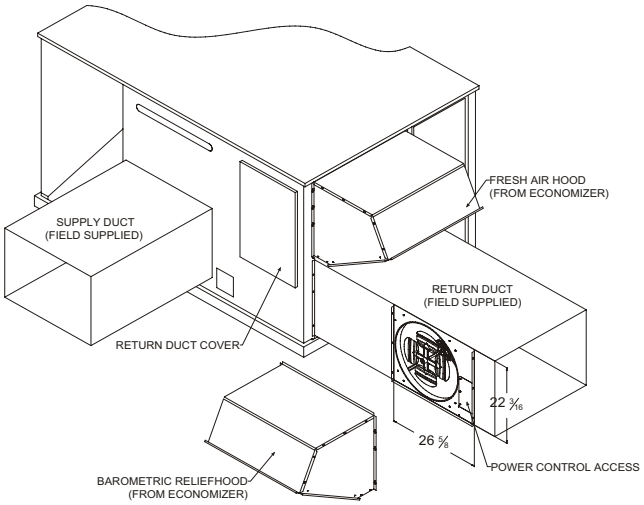


FIGURE 13 - HORIZONTAL APPLICATION POWER EXHAUST ACCESSORY

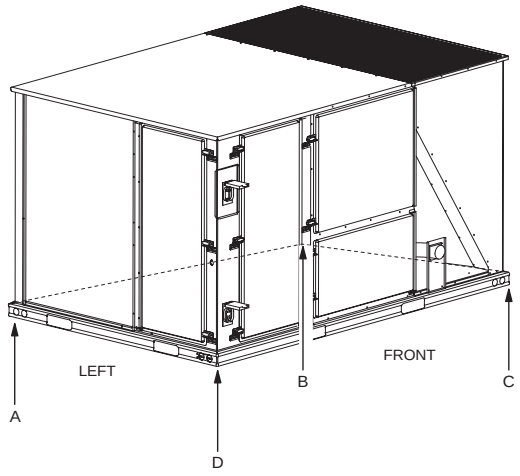


FIGURE 14 - DR090, 120 UNITS 4 POINT LOAD

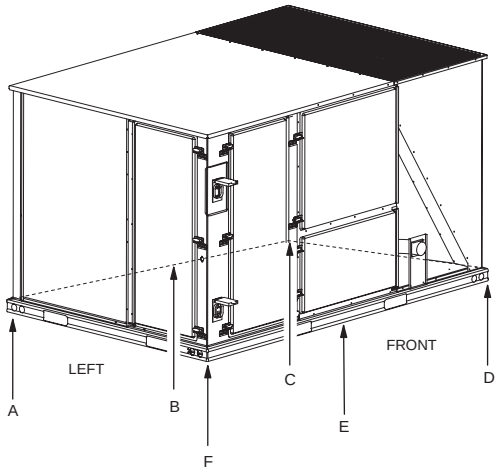


FIGURE 15 - DR090, 120 UNITS 6 POINT LOAD

TABLE 34: 4 POINT LOAD WEIGHT

Model	Location (lbs.)			
	A	B	C	D
DR090	250	215	309	374
DR120	276	237	341	408
DR150	293	370	479	393

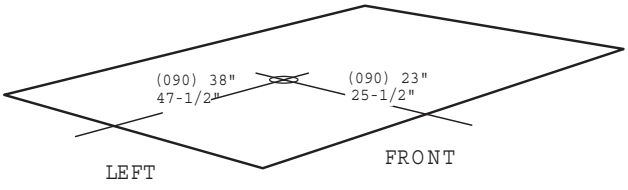


FIGURE 16 - UNIT CENTER OF GRAVITY DR090, 120

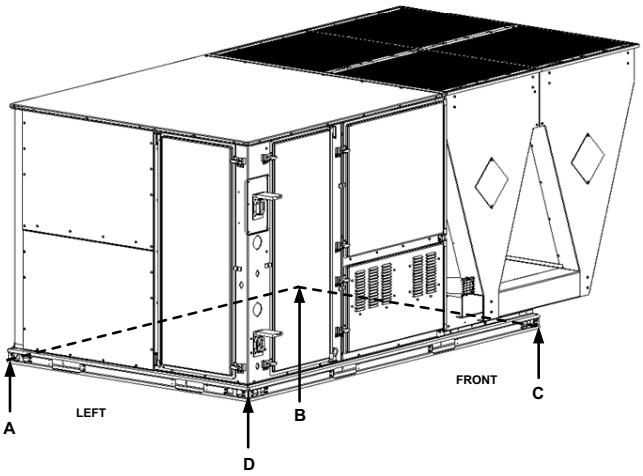


FIGURE 17 - DR150 UNIT 4 POINT LOAD

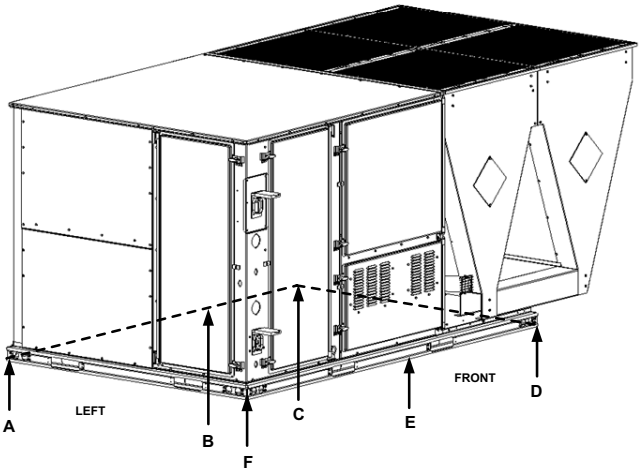


FIGURE 18 - DR150 UNIT 6 POINT LOAD

TABLE 35: 6 POINT LOAD WEIGHT

Model	Locations (lbs.)					
	A	B	C	D	E	F
DR090	171	154	139	201	225	258
DR120	188	170	154	220	248	282
DR150	191	217	253	329	286	260

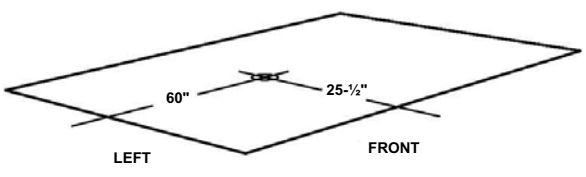


FIGURE 19 - UNIT CENTER OF GRAVITY DR150

TABLE 36: UNIT WEIGHT

Model	Shipping Weight (lbs.)	Operating Weight (lbs.)
DR090	1163	1148
DR120	1277	1262
DR150	1560	1545
W/ECON.	85	84
W/PE	150	148
W/ELECT. HEAT[1]	49	49
W/GAS HEAT[2]	110	110

1. 54 KW Heater
2. 8 Tube Heat Exchanger

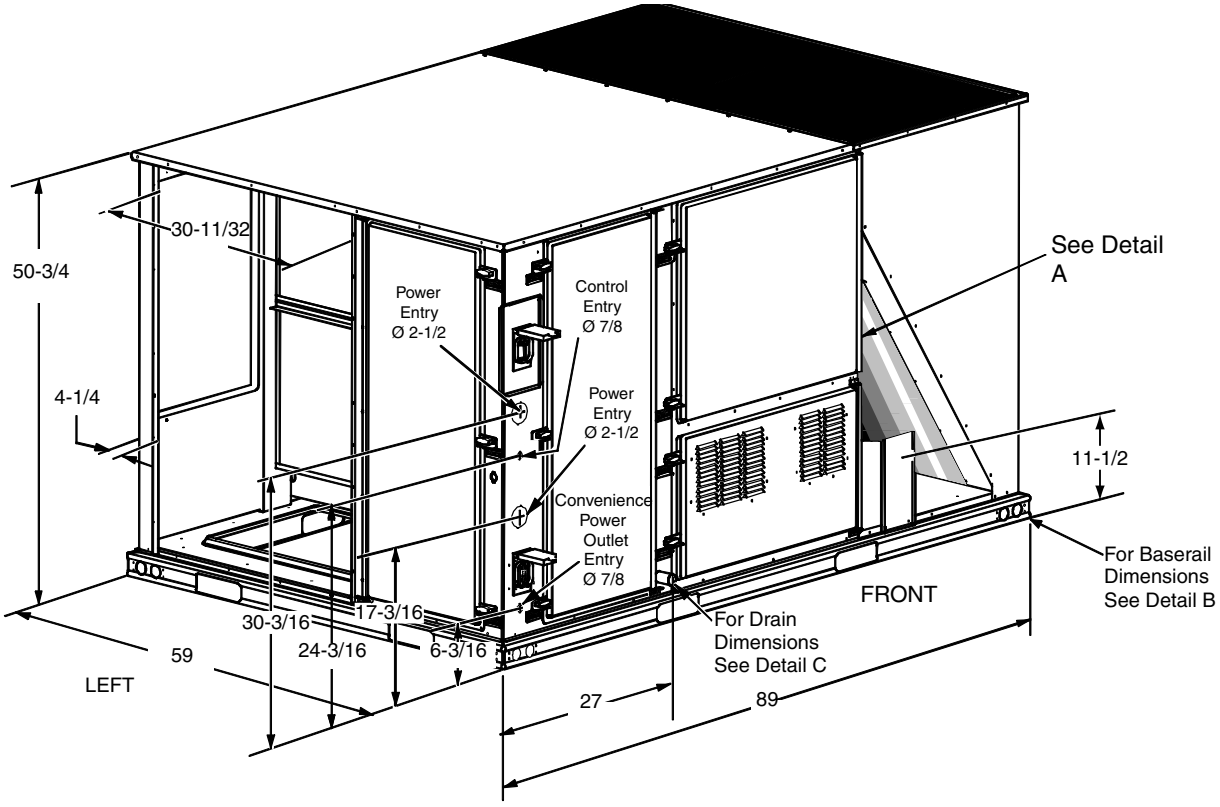


FIGURE 20 - DR090/120 UNIT DIMENSIONS

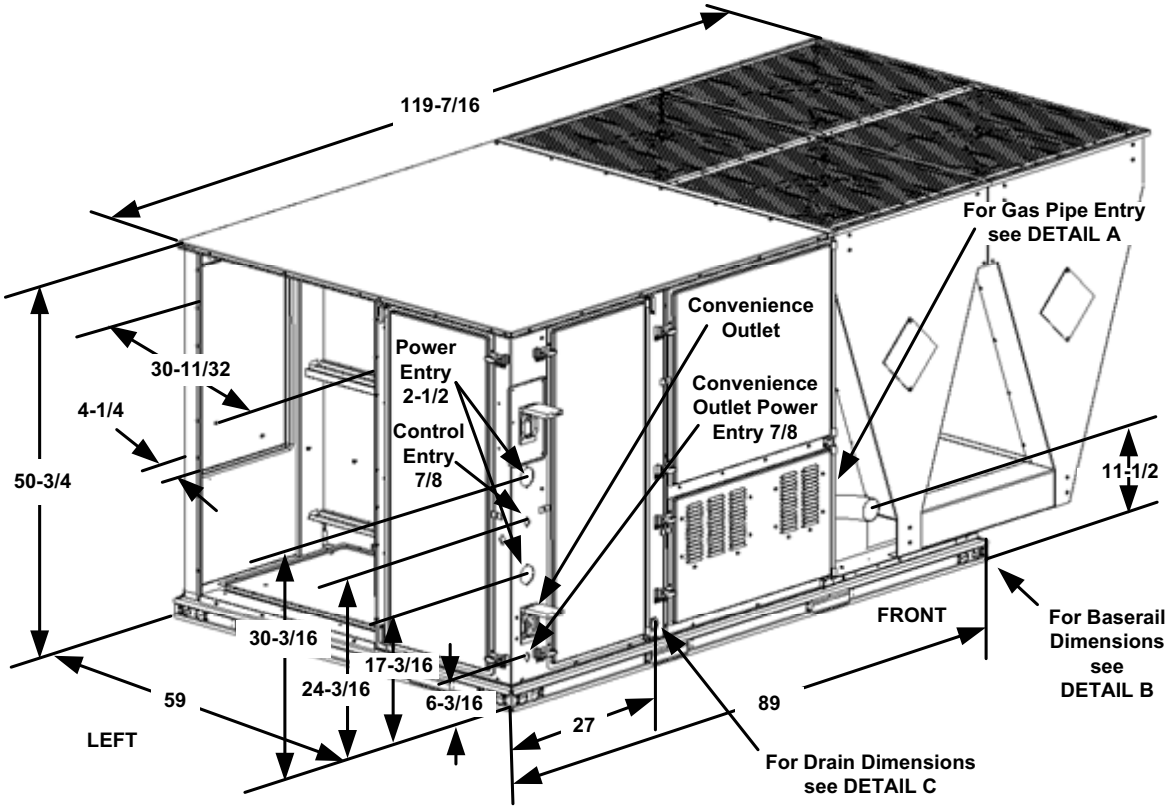
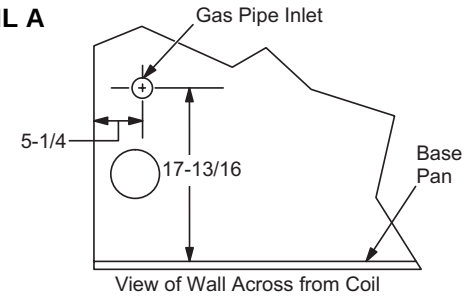
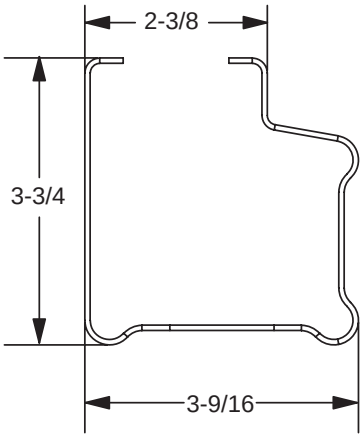


FIGURE 21 - DR150 UNIT DIMENSIONS

DETAIL A



DETAIL B



DETAIL C

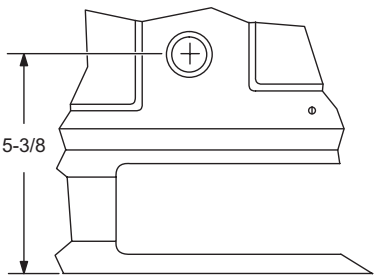


TABLE 37: UNIT CLEARANCES

Top[1]	72”	**Right**	12”
Front	36”	**Left**	36”
Rear[2]	36”	**Bottom**[3]	0”

1. Units must be installed outdoors. Overhanging structure or shrubs should not obstruct condenser air discharge outlet.
2. To remove the slide-out drain pan, a rear clearance of 60” is required. If space is unavailable, the drain pan can be removed through the front by separating the corner wall.
3. Units may be installed on combustible floors made from wood or class A, B or C roof covering materials.

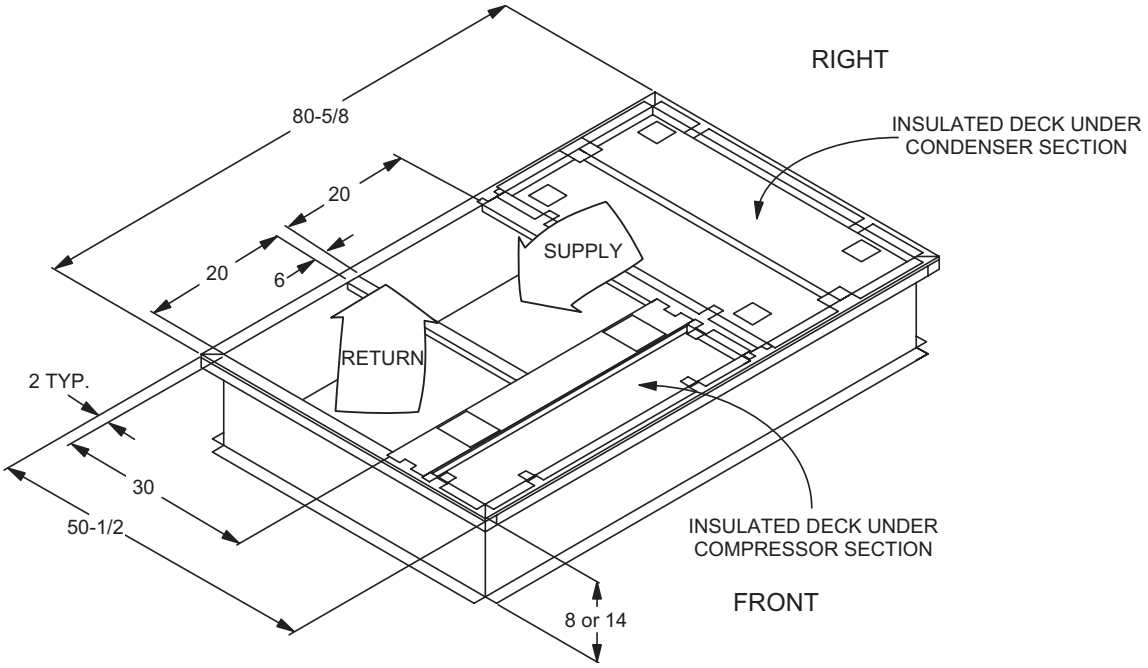


FIGURE 22 - PREDATOR® ROOF CURB DIMENSIONS

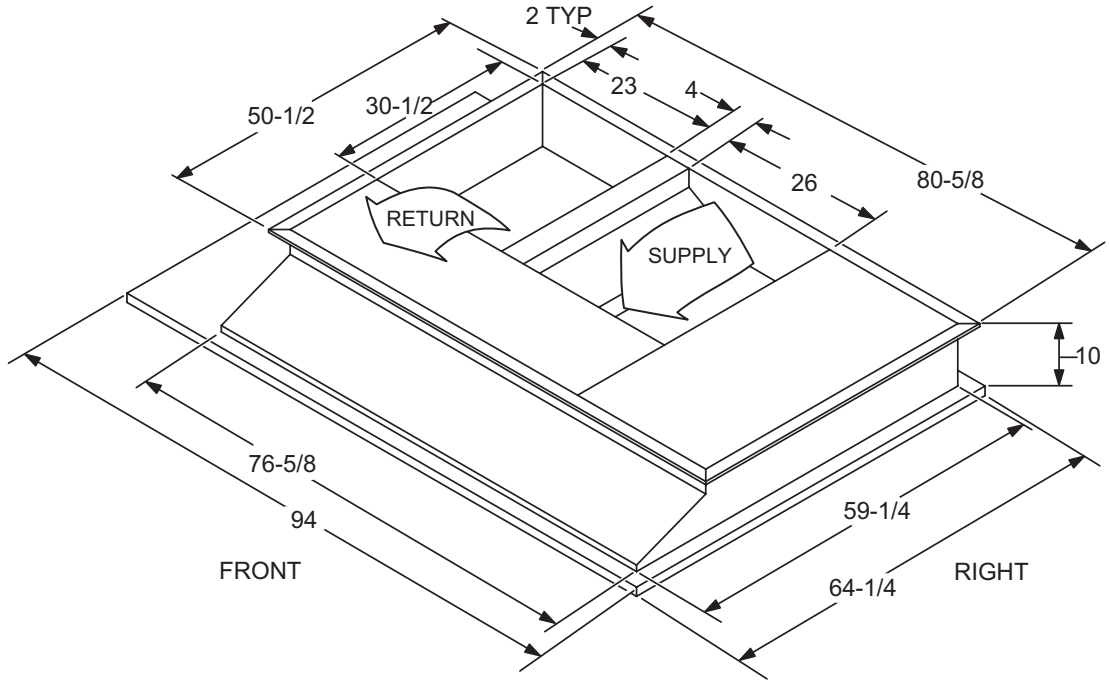


FIGURE 23 - SUNLINE™ TO PREDATOR® TRANSITION ROOF CURBS

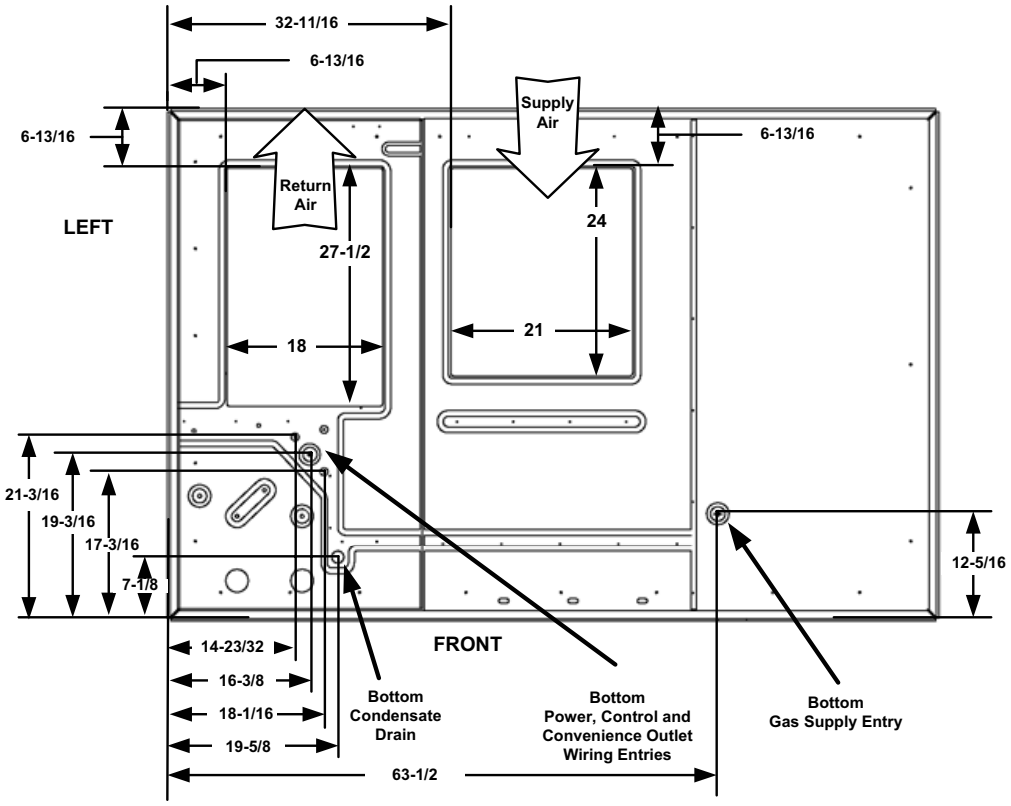


FIGURE 24 - BOTTOM DUCT OPENINGS (FROM ABOVE)

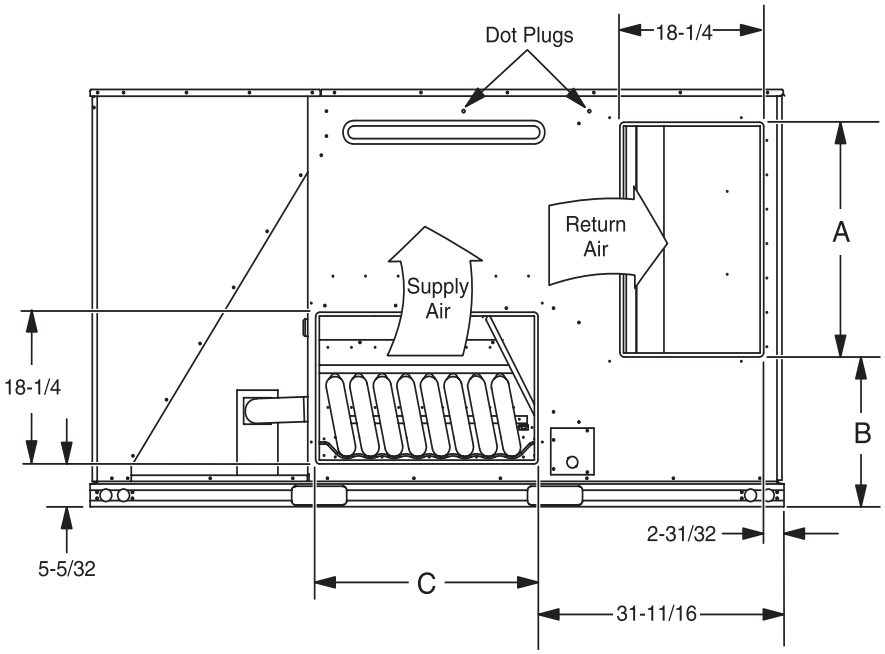


FIGURE 25 - DR090, 120 REAR DUCT DIMENSIONS

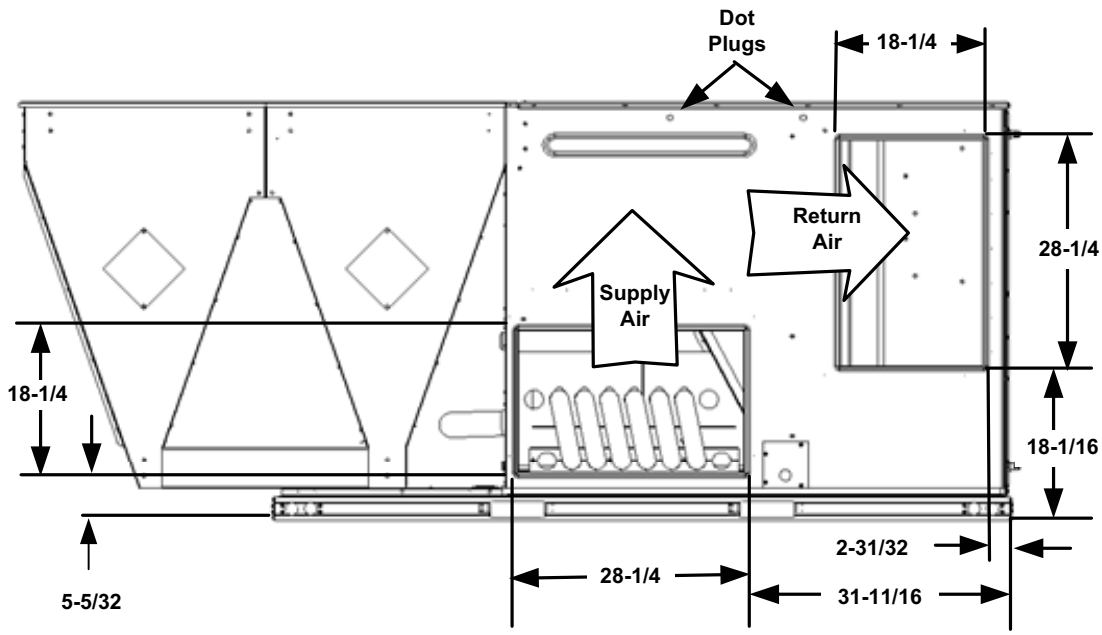


FIGURE 26 - DR150 REAR DUCT DIMENSIONS

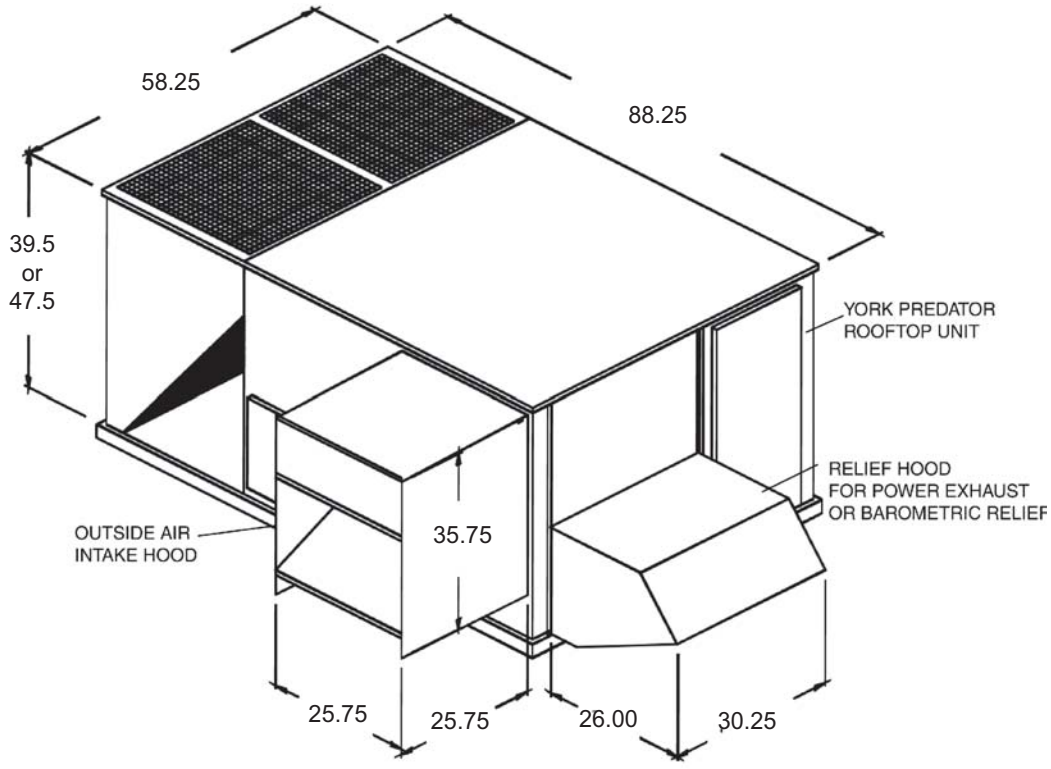


FIGURE 27 - DOWNFLOW ECONOMIZER HOOD DETAIL

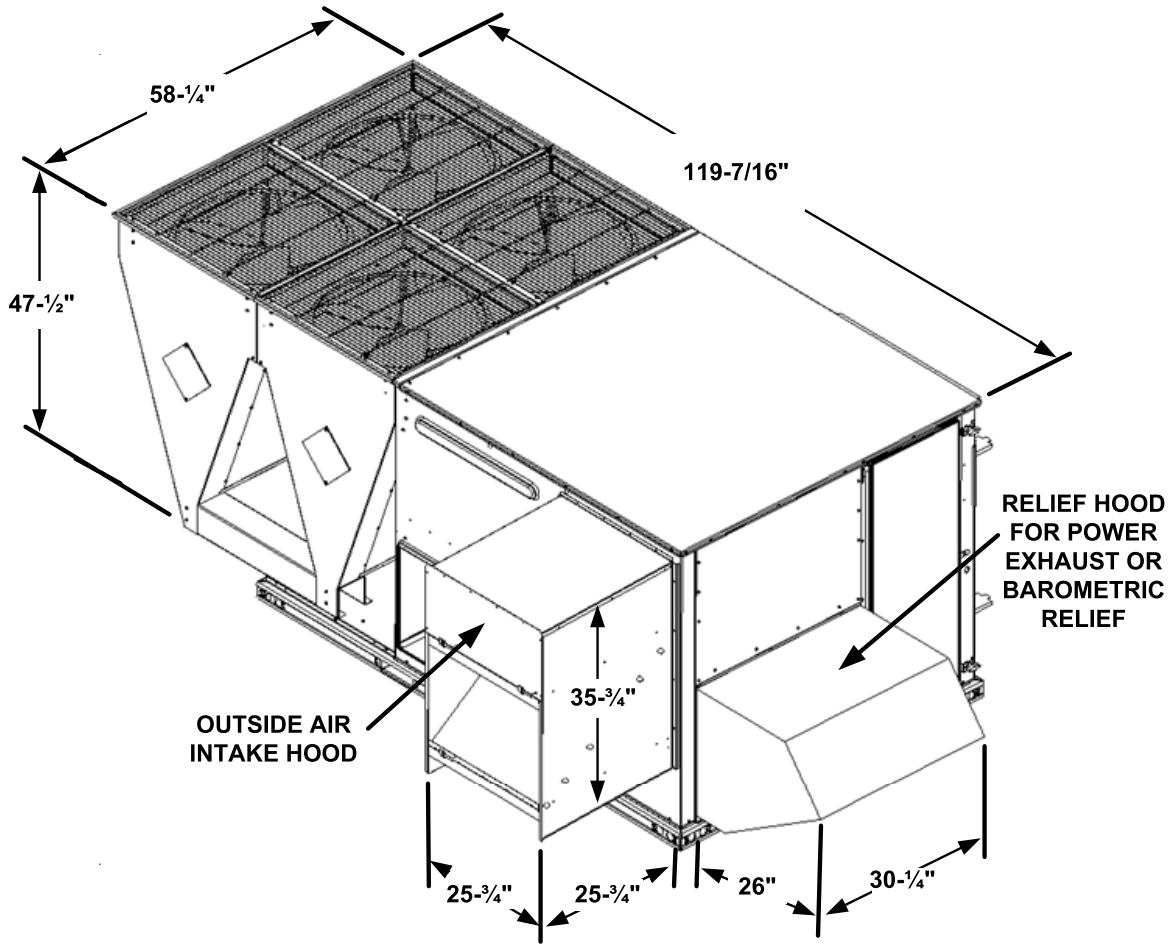


FIGURE 28 - DOWNFLOW ECONOMIZER HOOD DETAIL

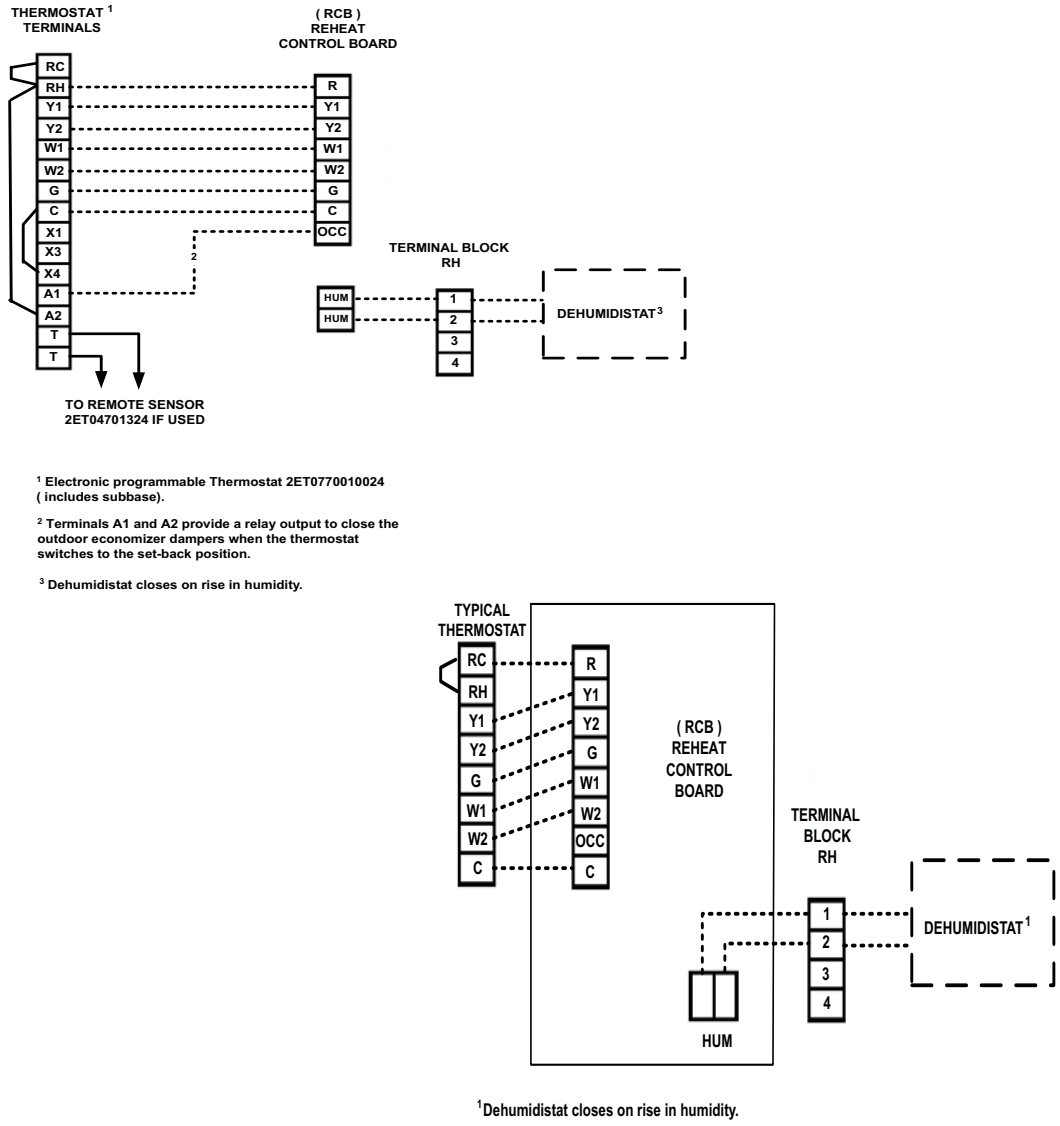


FIGURE 29 - TYPICAL LOW VOLTAGE FIELD WIRING

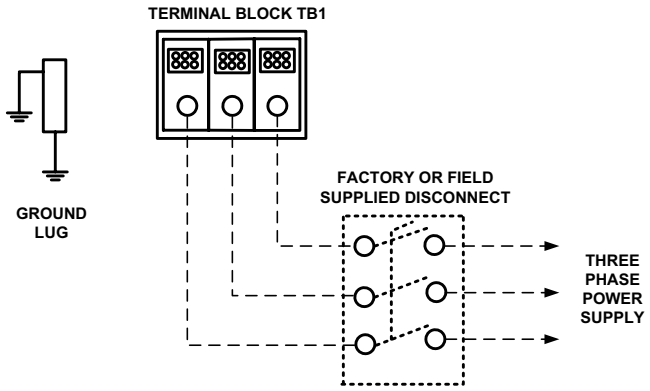


FIGURE 30 - FIELD WIRING DISCONNECT-COOLING UNIT WITH/WITHOUT ELECTRIC HEAT

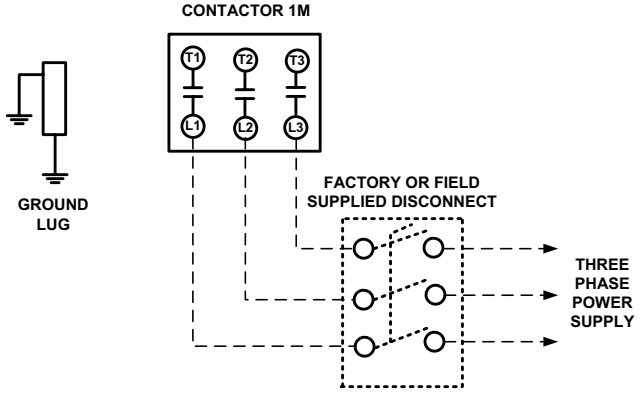


FIGURE 31 - FIELD WIRING DISCONNECT-COOLING UNIT WITH GAS HEAT

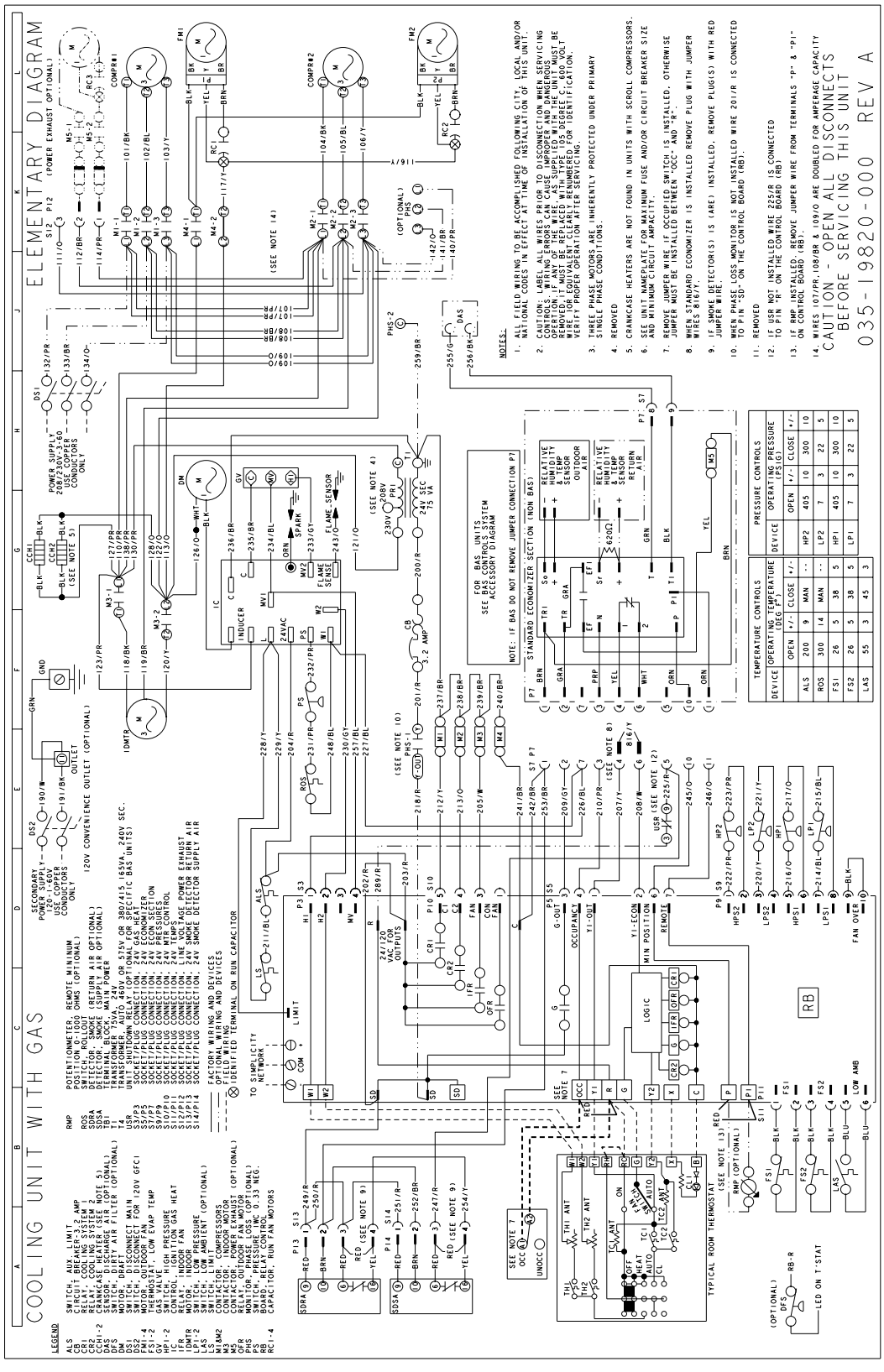

COOLING UNIT WITH GAS
ELEMENTARY DIAGRAM
035-19820-000 REV A
CAUTION - OPEN ALL DISCONNECTS BEFORE SERVICING THIS UNIT
NOTES:
1. ALL FIELD WIRING TO BE ACCOMPLISHED FOLLOWING CUTLER HAMMER NATIONAL CODES IN EFFECT AT INSTALLATION WHEN SERVICING THIS UNIT.
2. CAUTION: LABEL ALL WIRES PRIOR TO DISCONNECTION WHEN SERVICING CONTROLS. WIRING ERRORS CAN CAUSE IMPROPER AND DANGEROUS OPERATION. IF ANY OF THE WIRE AS SUPPLIED WITH THE UNIT MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING OF EQUIVALENT GAUGE AND VOLT RATING. VERIFY PROPER OPERATION AFTER SERVICING.
3. THREE PHASE MOTORS ARE INHERENTLY PROTECTED UNDER PRIMARY SINGLE PHASE CONDITIONS.
4. REMOVED
5. CRANKCASE HEATERS ARE NOT FOUND IN UNITS WITH SCROLL COMPRESSORS.
6. SEE UNIT NAMEPLATE FOR MAXIMUM FUSE AND/OR CIRCUIT BREAKER SIZE AND MINIMUM CIRCUIT AMPACITY.
7. REMOVE JUMPER WIRE IF OCCUPIED SWITCH IS INSTALLED. OTHERWISE JUMPER MUST BE INSTALLED BETWEEN "OCC" AND "R".
8. WHEN STANDARD ECONOMIZER IS INSTALLED REMOVE PLUG WITH JUMPER WIRES 816/Y.
9. IF SMOKE DETECTOR(S) IS (ARE) INSTALLED, REMOVE PLUG(S) WITH RED JUMPER WIRE.
10. WHEN PHASE LOSS MONITOR IS NOT INSTALLED WIRE 201/R IS CONNECTED TO PIN "SD" ON THE CONTROL BOARD (RB).
11. REMOVED
12. IF USR NOT INSTALLED WIRE 225/R IS CONNECTED TO PIN "R" ON THE CONTROL BOARD (RB).
13. IF RMP INSTALLED, REMOVE JUMPER WIRE FROM TERMINALS "P" & "P1" ON CONTROL BOARD (RB).
14. WIRES 107/PR, 108/BR & 109/O ARE DOUBLED FOR AMPERAGE CAPACITY
LEGEND
TEMPERATURE CONTROLS
PRESSURE CONTROLS
FOR BAS UNITS SEE BAS CONTROLS SYSTEM ACCESSORY DIAGRAM
NOTE: IF BAS DO NOT REMOVE JUMPER CONNECTION P7
STANDARD ECONOMIZER SECTION (NON BAS)
TYPICAL ROOM THERMOSTAT
LOGIC
RB
FACTORY WIRING AND DEVICES
FIELD WIRING AND DEVICES
IDENTIFIED TERMINAL ON RUN CAPACITOR
TO SIMPLICITY NETWORK

FIGURE 32 - DR090, 120 COOLING UNIT WITH GAS HEAT WIRING 230 VOLT DIAGRAM

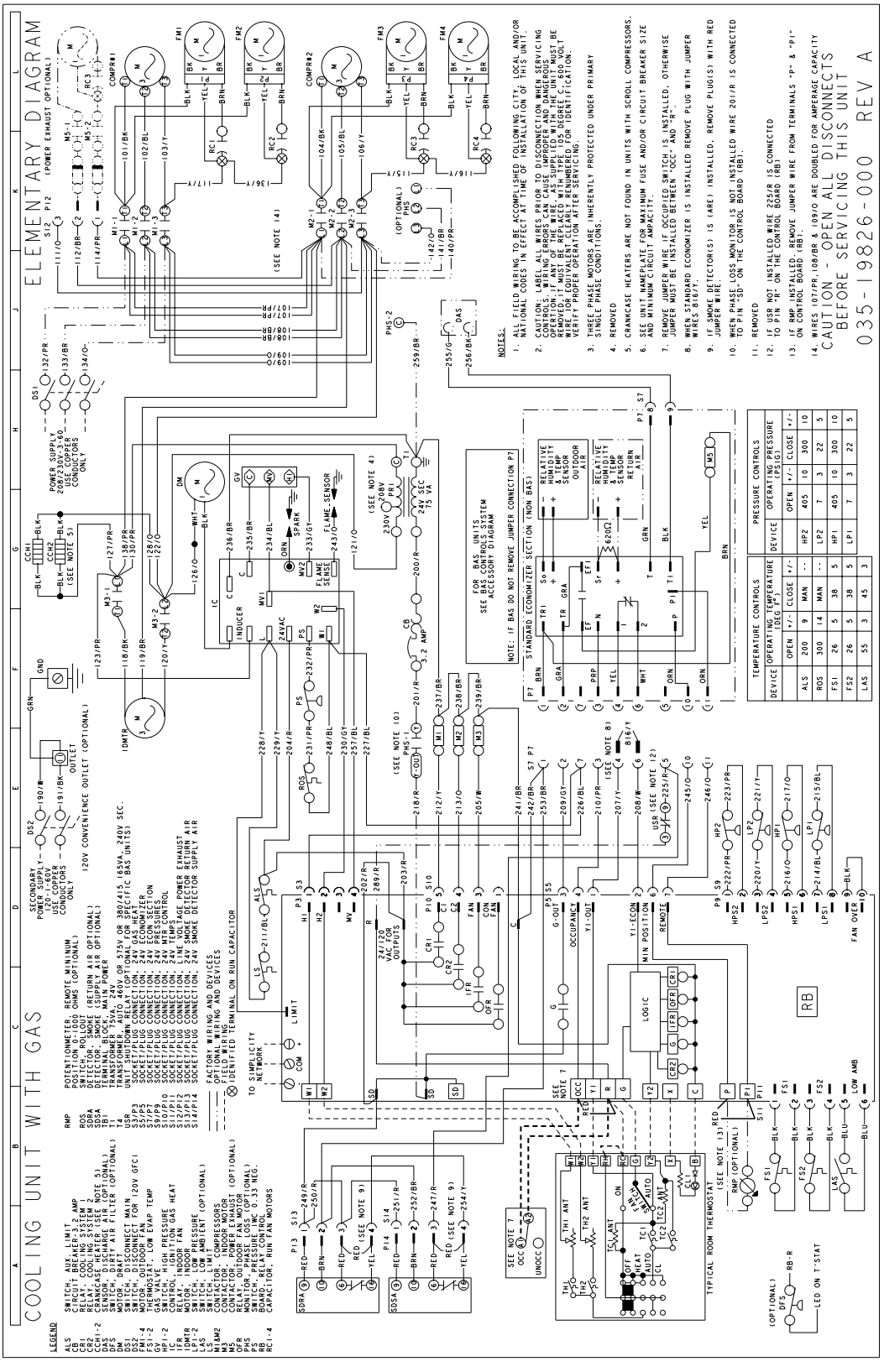


FIGURE 33 - DR150 COOLING UNIT WITH GAS HEAT WIRING 230 VOLT DIAGRAM

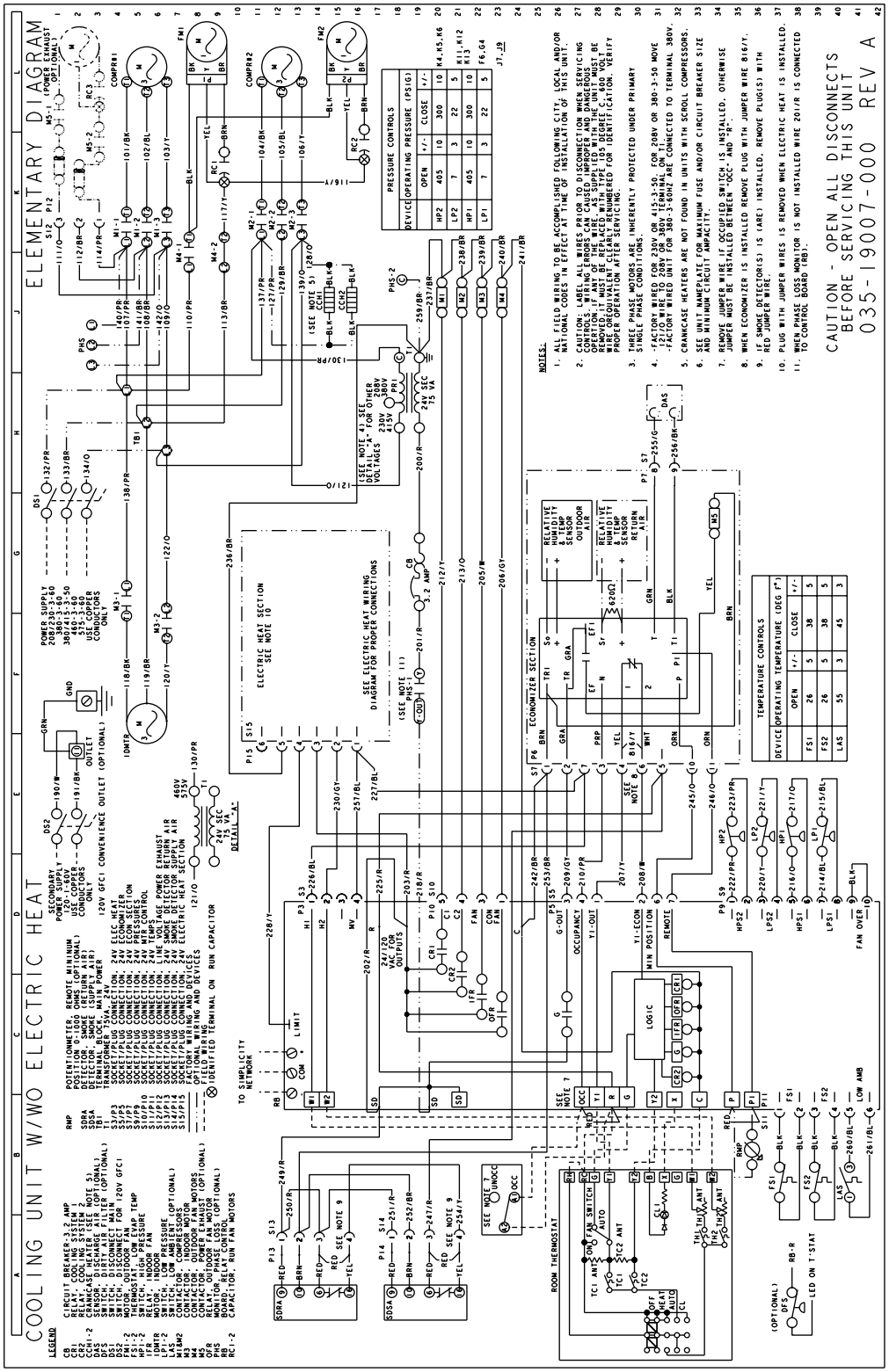


FIGURE 34 - DR090, 120 COOLING UNIT WITH/WITHOUT ELECTRIC HEAT WIRING DIAGRAM

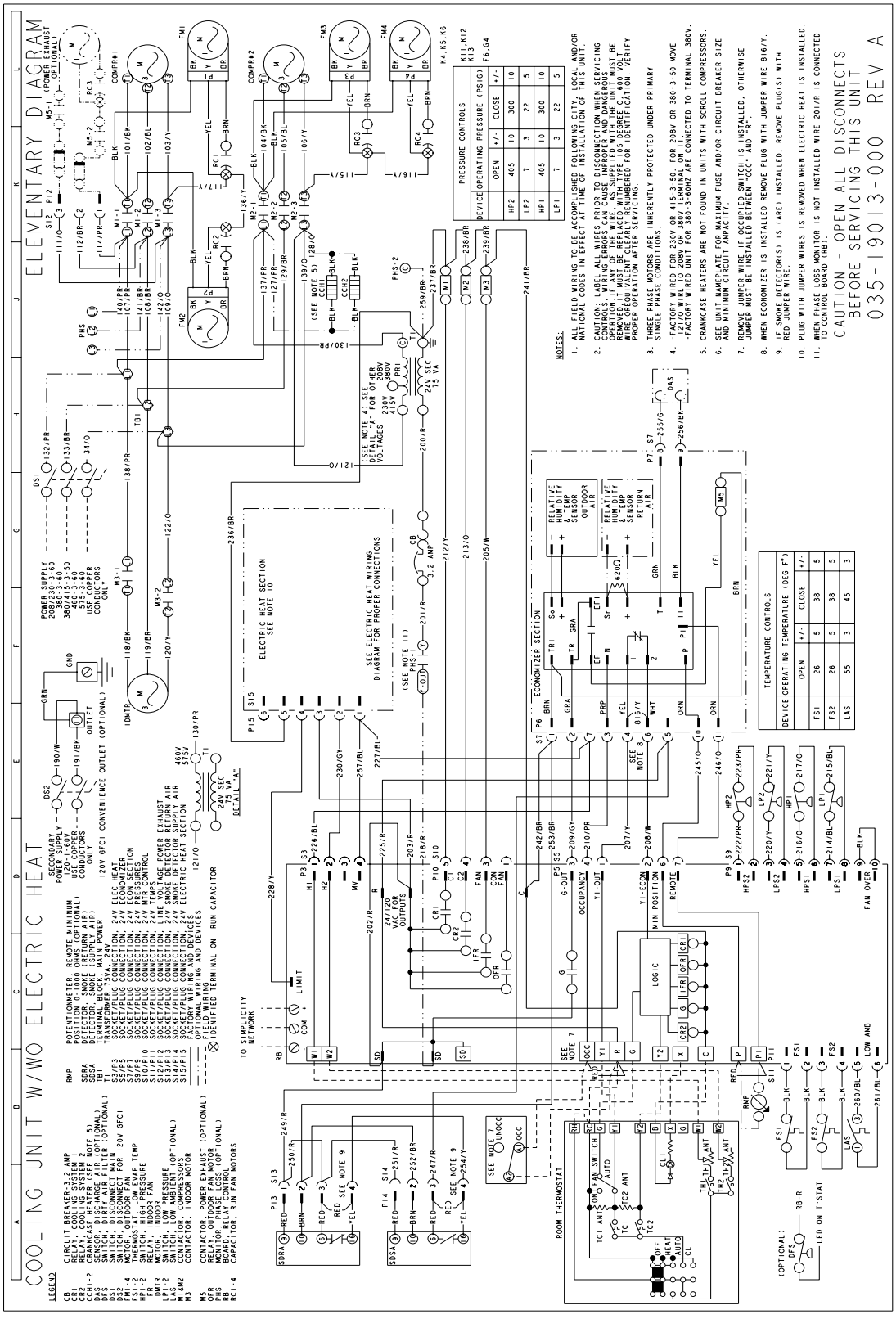


FIGURE 35 - DR150 COOLING UNIT WITH/WITHOUT ELECTRIC HEAT WIRING DIAGRAM

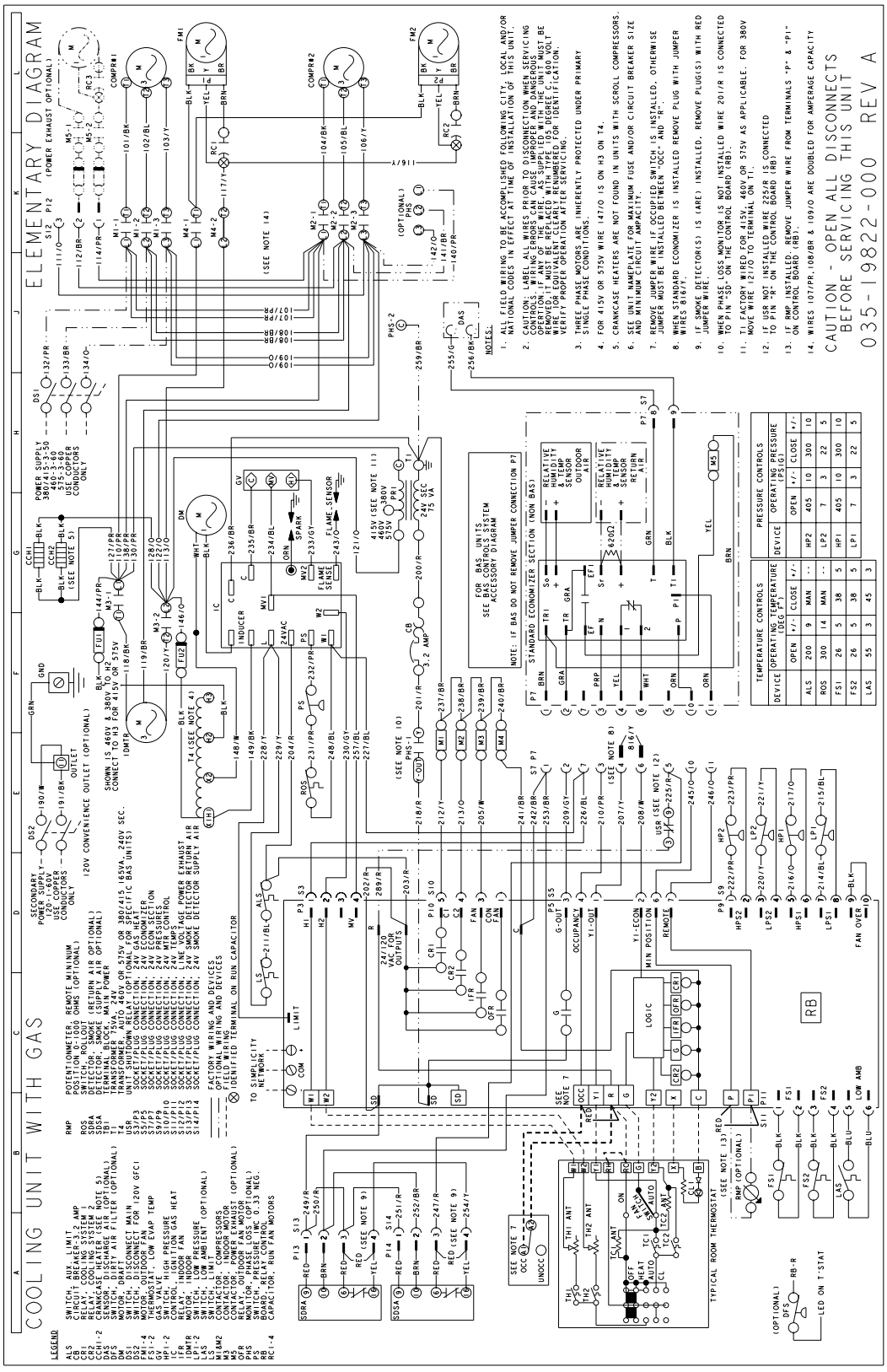

COOLING UNIT WITH GAS
ELEMENTARY DIAGRAM
(POWER EXHAUST OPTIONAL)
LEGEND
NOTES:
1. ALL FIELD WIRING TO BE ACCOMPLISHED FOLLOWING CITY, LOCAL AND/OR NATIONAL CODES IN EFFECT AT TIME OF INSTALLATION OF THIS UNIT.
2. CAUTION: LABEL ALL WIRES PRIOR TO DISCONNECTION WHEN SERVICING CONTROLS. WIRING ERRORS CAN CAUSE IMPROPER AND DANGEROUS OPERATION. IF ANY OF THE WIRES SUPPLIED WITH THE UNIT MUST BE REPLACED, REPLACE WITH WIRE HAVING IDENTICAL INSULATION. VERIFY PROPER OPERATION AFTER SERVICING.
3. THREE PHASE MOTORS ARE INHERENTLY PROTECTED UNDER PRIMARY SINGLE PHASE CONDITIONS.
4. FOR 415V OR 575V WIRE 147/O IS ON H3 ON T4.
5. CRANKCASE HEATERS ARE NOT FOUND IN UNITS WITH SCROLL COMPRESSORS.
6. SEE UNIT NAMEPLATE FOR MAXIMUM FUSE AND/OR CIRCUIT BREAKER SIZE AND MINIMUM CIRCUIT AMPACITY.
7. REMOVE JUMPER WIRE IF OCCUPIED SWITCH IS INSTALLED. OTHERWISE JUMPER MUST BE INSTALLED BETWEEN "OCC" AND "R".
8. WHEN STANDARD ECONOMIZER IS INSTALLED REMOVE PLUG WITH JUMPER WIRES 816/Y.
9. IF SMOKE DETECTOR(S) IS (ARE) INSTALLED, REMOVE PLUG(S) WITH RED JUMPER WIRE.
10. WHEN PHASE LOSS MONITOR IS NOT INSTALLED WIRE 201/R IS CONNECTED TO PIN "SD" ON THE CONTROL BOARD (RB).
11. TI FACTORY WIRED FOR 415V, 460V OR 575V AS APPLICABLE. FOR 380V MOVE WIRE 12/YO TERMINAL ON TI.
12. IF USR NOT INSTALLED WIRE 225/R IS CONNECTED TO PIN USR ON THE CONTROL BOARD (RB).
13. IF BAS INSTALLED, REMOVE JUMPER WIRE FROM TERMINALS "P" & "P1" ON CONTROL BOARD (RB).
14. WIRES 107/PR, 108/BR & 109/O ARE DOUBLED FOR AMPERAGE CAPACITY
CAUTION - OPEN ALL DISCONNECTS BEFORE SERVICING THIS UNIT
035-19822-000 REV A
TEMPERATURE CONTROLS
PRESSURE CONTROLS
STANDARD ECONOMIZER SECTION (NON BAS)
FOR BAS UNITS SEE BAS CONTROLS SYSTEM ACCESSORY DIAGRAM
NOTE: IF BAS DO NOT REMOVE JUMPER CONNECTION P1
TYPICAL ROOM THERMOSTAT
(SEE NOTE 13)
RB
LOGIC
LIMIT
INDUCER
FLAME SENSOR
FLAME SENSE
LOW AMB
FAN OVER
RELATIVE HUMIDITY & TEMP SENSOR RETURN AIR
RELATIVE HUMIDITY & TEMP SENSOR OUTDOOR AIR
POWER SUPPLY 380/415-3-50 460-3-60 575-3-60
USE CONDUCTORS ONLY
120V CONVENIENCE OUTLET (OPTIONAL)
SHOWN IS 460V & 380V TO H2 CONNECT TO H3 FOR 415V OR 575V
3.2 AMP
415V (SEE NOTE 11) 460V 380V 575V PRI
24V SEC 75 VA
(SEE NOTE 10)
(SEE NOTE 8)
(SEE NOTE 12)
(SEE NOTE 9)
(SEE NOTE 7)
(OPTIONAL)
TO SIMPLICITY NETWORK
FACTORY WIRING AND DEVICES
FIELD WIRING AND DEVICES
IDENTIFIED TERMINAL ON RUN CAPACITOR
COMPR#1
COMPR#2
FM1
FM2
RCI
RC1
RC2
DAS
PHS-2
(OPTIONAL) PHASE MONITOR
(SEE NOTE 14)

FIGURE 36 - DR090, 120 COOLING UNIT WITH GAS HEAT WIRING 460, 575 VOLT 50 HZ DIAGRAM

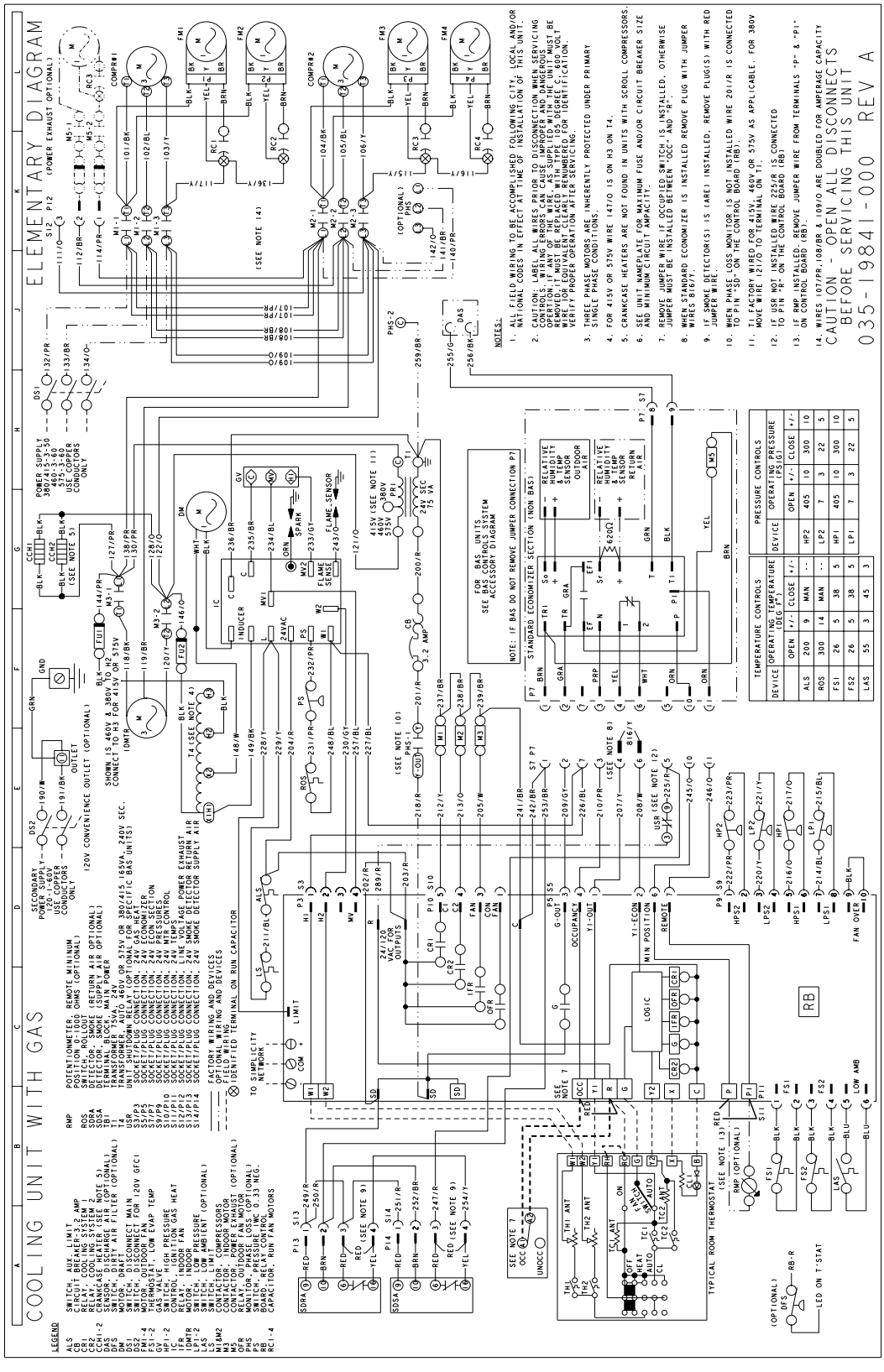


FIGURE 37 - DR150 COOLING UNIT WITH GAS HEAT WIRING 460, 575 & 50 HZ DIAGRAM

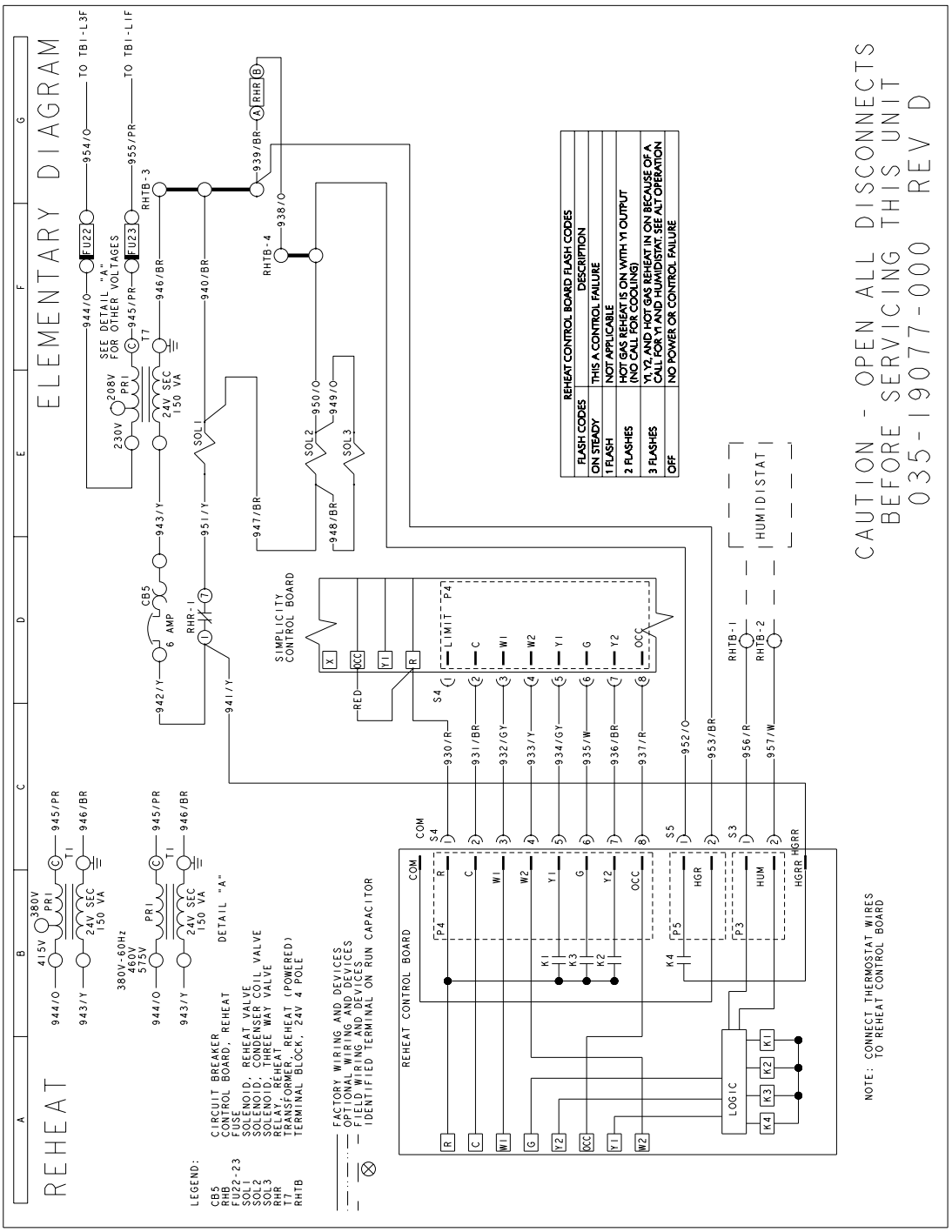


FIGURE 38 - DR090 AND 120 REHEAT WIRING DIAGRAM

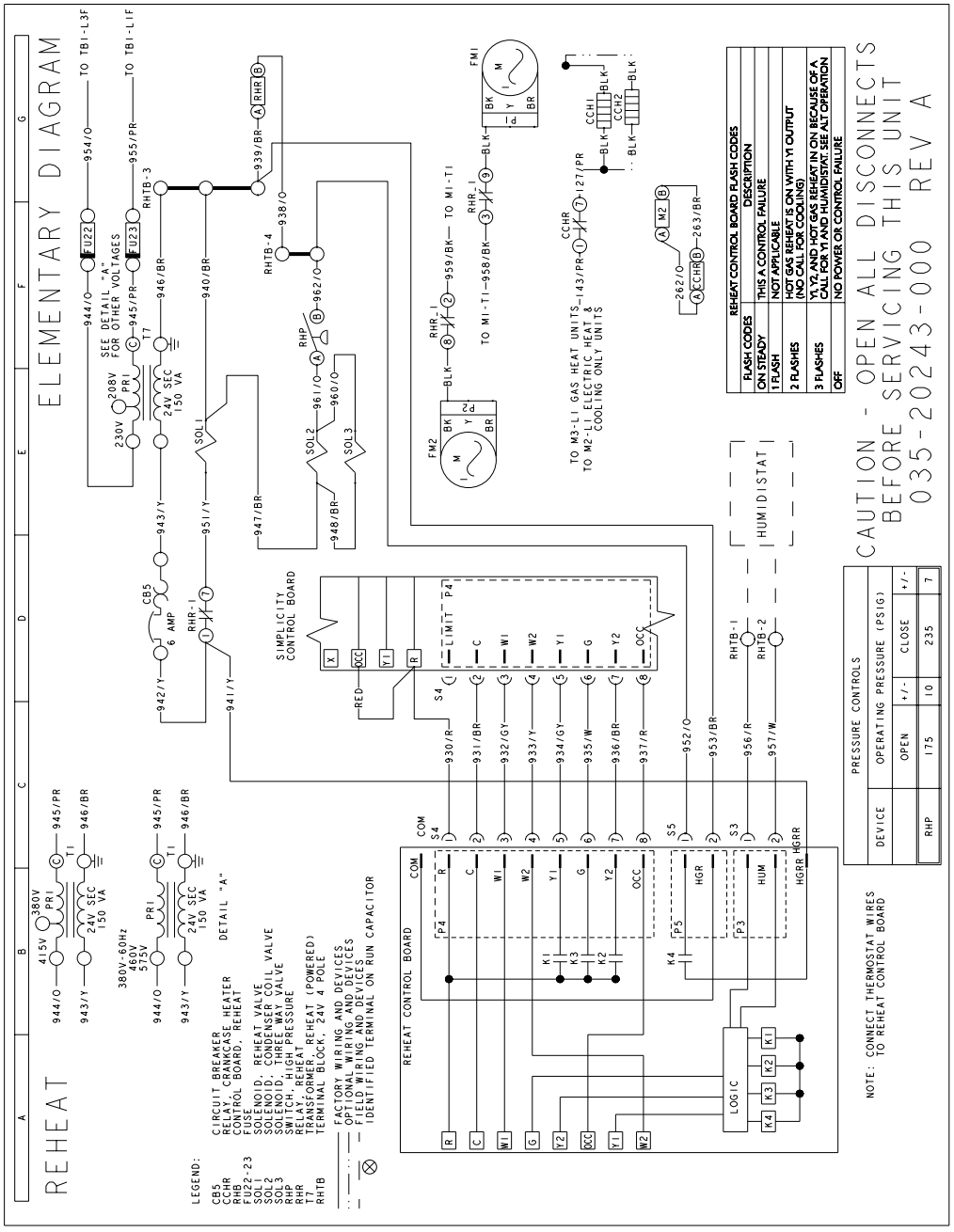


FIGURE 39 - DR150 REHEAT WIRING DIAGRAM

GUIDE SPECIFICATIONS

PREDATOR® MagnaDRY™
DR 090, 120 & 150

GENERAL

Units shall be manufactured by York International Unitary Products Group in an ISO 9001 certified facility. YORK® Predator® MagnaDRY™ units are convertible single packages with a common footprint cabinet and common roof curb for all 7-1/2 through 12-1/2 ton models. All units have two compressors with independent refrigeration circuits to provide 2 stages of cooling. The units were designed for light commercial applications and can be easily installed on a roof curb, slab, or frame. All Predator® MagnaDRY™ units are self-contained and assembled on rigid full perimeter base rails allowing for 3-way forklift access and overhead rigging. Every unit is completely charged, wired, piped, and tested at the factory to provide a quick and easy field installation. All units are convertible between side and down airflow. Independent economizer designs are used on side and down discharge applications, as well as all tonnage sizes. Predator® MagnaDRY™ units are available in the following configurations: cooling only, cooling with electric heat, and cooling with gas heat. Electric heaters are available as factory-installed options or field-installed accessories.

DESCRIPTION

Units shall be factory assembled, single package, (Elec/Elec, Gas/Elec), designed for outdoor installation. Units shall have a minimum EER of 9.0. They shall have built in field convertible duct connections for down discharge supply/return or horizontal discharge supply/return and be available with factory installed options or field installed accessories. The units shall be factory wired, piped and charged with R-22 refrigerant and factory tested prior to shipment. All unit wiring shall be both numbered and color coded. The cooling performance shall be rated in accordance with DOE and ARI test procedures. Units shall be CSA certified to ANSI Z21.47 and UL 1995/CAN/CSA No. 236-M90 standards.

UNIT CABINET

Unit cabinet shall be constructed of G90 galvanized steel with exterior surfaces coated with a non-chalking, powder paint finish, certified at 750 hours salt spray test per ASTM-B117 standards. Indoor blower sections shall be insulated with up to 1/2” thick insulation coated on the airside. Aluminum foil faced insulation shall be used in the unit’s compartments and be fastened to prevent insulation from entering the air stream. Cabinet doors shall be hinged with tool-less access for easy servicing and maintenance. Full perimeter base rails shall be provided to assure reliable transit of equipment, overhead rigging, fork truck access and proper sealing on roof curb applications. Disposable 2” filters shall be furnished and be accessible through hinged access door. Fan performance measuring ports shall be provided on the outside of the cabinet to allow accurate air measurements of evaporator fan performance without removing panels or creating bypass of the coils. Condensate pan shall be slide out design, constructed of a non corrosive material, internally sloped and conforming to ASHRAE 62-B9 standards. Condensate connection shall be a minimum of ¾” I.D. female and be rigid mount connection.

INDOOR (EVAPORATOR) FAN ASSEMBLY

Fan shall be a belt drive assembly and include an adjustable pitch motor pulley. Job site selected brake horsepower shall not exceed the motors nameplate horsepower rating plus the service factor. Units shall be designed to operate within the service factor. Fan wheel shall be double inlet type with forward curve blades, dynamically balanced to operate smoothly throughout the entire range of operation. Airflow design shall be constant volume. Bearings shall be sealed and permanently lubricated for longer life and no maintenance. Entire blower assembly and motor shall be slide out design.

OUTDOOR (CONDENSER) FAN ASSEMBLY

The outdoor fans shall be of the direct drive type, discharge air vertically, have aluminum blades riveted to corrosion resistant steel spider brackets and shall be dynamically balanced for smooth operation. The outdoor fan motors shall have permanently lubricated bearings internally protected against overload conditions and staged independently. A cleaning window shall be provided on two sides of the units for coil cleaning.

REFRIGERANT COMPONENTS

Compressors:

A. Shall be fully hermetic type, direct drive, internally protected with internal high-pressure relief and over temperature protection. The hermetic motor shall be suction gas cooled and have a voltage range of + or – 10% of the unit nameplate voltage.

B. Shall have internal spring isolation and sound muffling to minimize vibration and noise, and be externally isolated on a dedicated, independent mounting.

Coils:

A. Evaporator and condenser coils shall have aluminum plate fins mechanically bonded to seamless internally enhanced copper tubes with all joints brazed. Special Phenolic coating shall be available as a factory option.

B. Evaporator and condenser coils shall be of the direct expansion, draw-thru design.

Refrigerant Circuit and Refrigerant Safety Components shall include:

A. Independent fixed-orifice or thermally operated expansion devices.

B. Solid core filter drier/strainer to eliminate any moisture or foreign matter.

C. Accessible service gage connections on both suction and discharge lines to charge, evacuate, and measure refrigerant pressure during any necessary servicing or troubleshooting, without losing charge.

D. The unit shall have two independent refrigerant circuits, equally split in 50% capacity increments.

Unit Controls:

A. Unit shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-volt transformer side.

B. Unit shall incorporate a lockout circuit which provides reset capability at the space thermostat or base unit should any of the following standard safety devices trip and shut off compressor:

C. Loss-of-charge/Low-pressure switch.

(1) High-pressure switch.

(2) Freeze-protection thermostat, evaporator coil. If any of the above safety devices trip, an LED (light-emitting diode) indicator shall flash a diagnostic code that indicates which safety switch has tripped.

D. Unit shall incorporate “AUTO RESET” compressor over temperature, over current protection.

E. Unit shall operate with conventional thermostat designs and have a low voltage terminal strip for easy hook-up.

F. Unit control board shall have on-board diagnostics and fault code display.

G. Standard controls shall include anti-short cycle and low voltage protection, and permit cooling operation down to 0 ºF.

H. Control board shall monitor each refrigerant safety switch independently.

I. Control board shall retain last 5 fault codes in non-volatile memory, which will not be lost in the event of a power loss.

GAS HEATING SECTION (IF EQUIPPED)

Heat exchanger and exhaust system shall be constructed of aluminized steel and shall be designed with induced draft combustion with post purge logic, energy saving direct spark ignition, and redundant main gas valve. The heat exchanger shall be of the tubular type, constructed of T1-40 aluminized steel for corrosion resistance and allowing minimum mixed air entering temperature of 40 ºF. Burners shall be of the in-shot type, constructed of aluminum-coated steel. All gas piping shall enter the unit cabinet at a single location, through either the side or bottom, without any field modifications. An integrated control board shall provide timed control of evaporator fan functioning and burner ignition. Heating section shall be provided with the following minimum protection:

A. Primary and auxiliary high-temperature limit switches.

B. Induced draft pressure sensor.

C. Flame roll out switch (manual reset).

D. Flame proving controls. Unit shall have two independent stages of capacity (60% 1st stage, 100% 2nd stage).

ELECTRIC HEATING SECTION (IF EQUIPPED)

An electric heating section, with nickel chromium elements, shall be provided in a range of 9 thru 54 KW, offering two states of capacity all sizes. The heating section shall have a primary limit control(s) (automatic reset) to prevent the heating element system from operating at an excessive temperature. The Heating Section assembly shall slide out of the unit for easy maintenance and service. Units with Electric Heating Sections shall be wired for a single point power supply with branch circuit fusing (where required).

UNIT OPERATING CHARACTERISTICS

Unit shall be capable of starting and running at 125 ºF outdoor temperature, exceeding maximum load criteria of ARI Standard 210/240. The compressor, with standard controls, shall be capable of operation down to 0 ºF outdoor temperature. Unit shall be provided with fan time delay to prevent cold air delivery before heat exchanger warms up. (Gas heat only)

ELECTRICAL REQUIREMENTS - All unit power wiring shall enter unit cabinet at a single factory provided location and be capable of side or bottom entry to minimize roof penetrations and avoid unit field modifications. Separate side and bottom openings shall be provided for the control wiring.

STANDARD LIMITED WARRANTIES - Compressor – 5 Years, Heat Exchanger – 10 Years, Elect. Heat Elem. – 5 Years, Parts – 1 Year

FACTORY INSTALLED OPTIONAL OUTDOOR AIR (Shall be made available by either/or):

1. **ELECTRONIC ENTHALPY AUTOMATIC ECONOMIZER** – Outdoor and return air dampers that are interlocked and positioned by a fully-modulating, spring-return damper actuator. The maximum leakage rate for the outdoor air intake dampers shall not exceed 2% when dampers are fully closed and operating against a pressure differential of 0.5 IWG. A unit-mounted potentiometer shall be provided to adjust the outdoor and return air damper assembly to take in outdoor air to meet the minimum ventilation requirement of the conditioned space during normal operation. During economizer operation, a mixed-air temperature control shall modulate the

outdoor and return air damper assembly to prevent the supply air temperature from dropping below 55 ºF. Changeover from compressor to economizer operation shall be provided by an integral electronic enthalpy control that feeds input into the basic module. The outdoor intake opening shall be covered with a rain hood that matches the exterior of the unit. Water eliminator/filters shall be provided. Simultaneous economizer/compressor operation is also possible. Dampers shall fully close on power loss. Available with barometric relief or power exhaust.

2. **MOTORIZED OUTDOOR AIR DAMPERS** – Outdoor and return air dampers that are interlocked and positioned by a 2-position, spring-return damper actuator. The maximum leakage rate for the outdoor air intake dampers shall not exceed 2% when dampers are fully closed and operating against a pressure differential of 0.5 IWG. A unit-mounted potentiometer shall be provided to adjust the outdoor and return air damper assembly to take in the design CFM of outdoor air to meet the ventilation requirements of the conditioned space during normal operation. Whenever the indoor fan motor is energized, the dampers open up to one of two pre-selected positions – regardless of the outdoor air enthalpy. Dampers return to the fully closed position when the indoor fan motor is de-energized. Dampers shall fully close on power loss.

ADDITIONAL FACTORY INSTALLED OPTIONS

- **ALTERNATE INDOOR BLOWER MOTOR** – For applications with high restrictions, units are available with optional indoor blower motors that provide higher static output and/or higher airflow.
- **CONVENIENCE OUTLET (POWERED/NON-POWERED)** – Unit can be provided with an optional 120VAC GFCI outlet with cover on the corner of the unit housing the compressors.
- **ELECTRIC HEAT** - Electric Heaters range from 9 kW to 54 kW and are available in all the voltage options of the base unit.
- **PHASE MONITOR** - Designed to prevent damage in out-of-phase condition.
- **COIL GUARD** - Designed to prevent condenser coil damage.
- **BAS CONTROLS** - Include supply air sensor, return air sensor, dirty filter indicator and air proving switch.
- **DIRTY FILTER SWITCH** – This kit includes a differential pressure switch that energizes the fault light on the unit thermostat, indicating that there is an abnormally high-pressure drop across the filters.
- **BREAKER** – An HACR breaker can be factory installed on gas heat units or cooling units with electric heat.
- **DISCONNECT SWITCH** - A disconnect can be factory installed on a cooling only units sized for the largest electric heat available.
- **STAINLESS STEEL HEAT EXCHANGER** – For applications in a corrosive environment, this option provides a full stainless steel heat exchanger assembly.
- **STAINLESS STEEL DRAIN PAN** - Provides years of trouble free operation in corrosive environments.
- **SMOKE DETECTOR** – A smoke detector can be factory mounted and wired in the supply and/or return air compartments.

OTHER PRE-ENGINEERED ACCESSORIES AVAILABLE

- **ROOF CURB** - 14” and 8” high, full perimeter knockdown curb, with hinged design for quick assembly.
- **BAROMETRIC RELIEF DAMPER** – (Unit mounted – Downflow, Duct Mounted – Horizontal) – Contains a rain hood, air inlet screen, exhaust damper and mounting hardware. Used to relieve internal air pressure through the unit during economizer operation.
- **PROPANE CONVERSION KIT** – Contains new orifices and gas valve springs to convert from natural to L.P. gas.
- **60 ºF GAS HEAT KIT** – Provides an electric heat kit for the gas compartment for use in extreme low ambient conditions.
- **ECONOMIZER** (Downflow and Horizontal flow)
- **POWER EXHAUST** – (Unit mount – Downflow, Duct mount – Horizontal flow)
- **DUAL ENTHALPY KIT** - Provides a second input to economizer to monitor return air.

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Unitary Products Group

5005 York Drive

Norman OK 73069